Power up:
Chord Electronics' Mojo 2's a winner

BUYING GUIDE
100+ essential components p109

Space invader:
Sendy Apollo over-ear, Planar-magnetic cans

Hi-Fi Choice

PASSION FOR SOUND

Issue No. 488 May 2022

GO WIRELESS!

GROUP TEST

We ditch the cables and put six networked speakers through their paces

NEWS EXTRA

Launches from Sonus faber, iFi Audio, Marantz, Bowers & Wilkins, Yamaha and more...

RSD JUNE DROP

Vinyl goodies from The Kinks, Miles Davis, Pearl Jam, Dio & Prince...

Smooth Operator

Roksan's Attessa turntable with built-in phono preamp!

BOXING CLEVER

We investigate the science behind speaker cabinet design

SHARP PRACTICE!

Matrix Audio X-Sabre 3 DAC/streamer cuts it

WIZARDS WITH OZ

We humbly bow before the awesome Black Sabbath

BEST IN CLASS

Rogers' LS3/5A SE classic BBC standmount stuns

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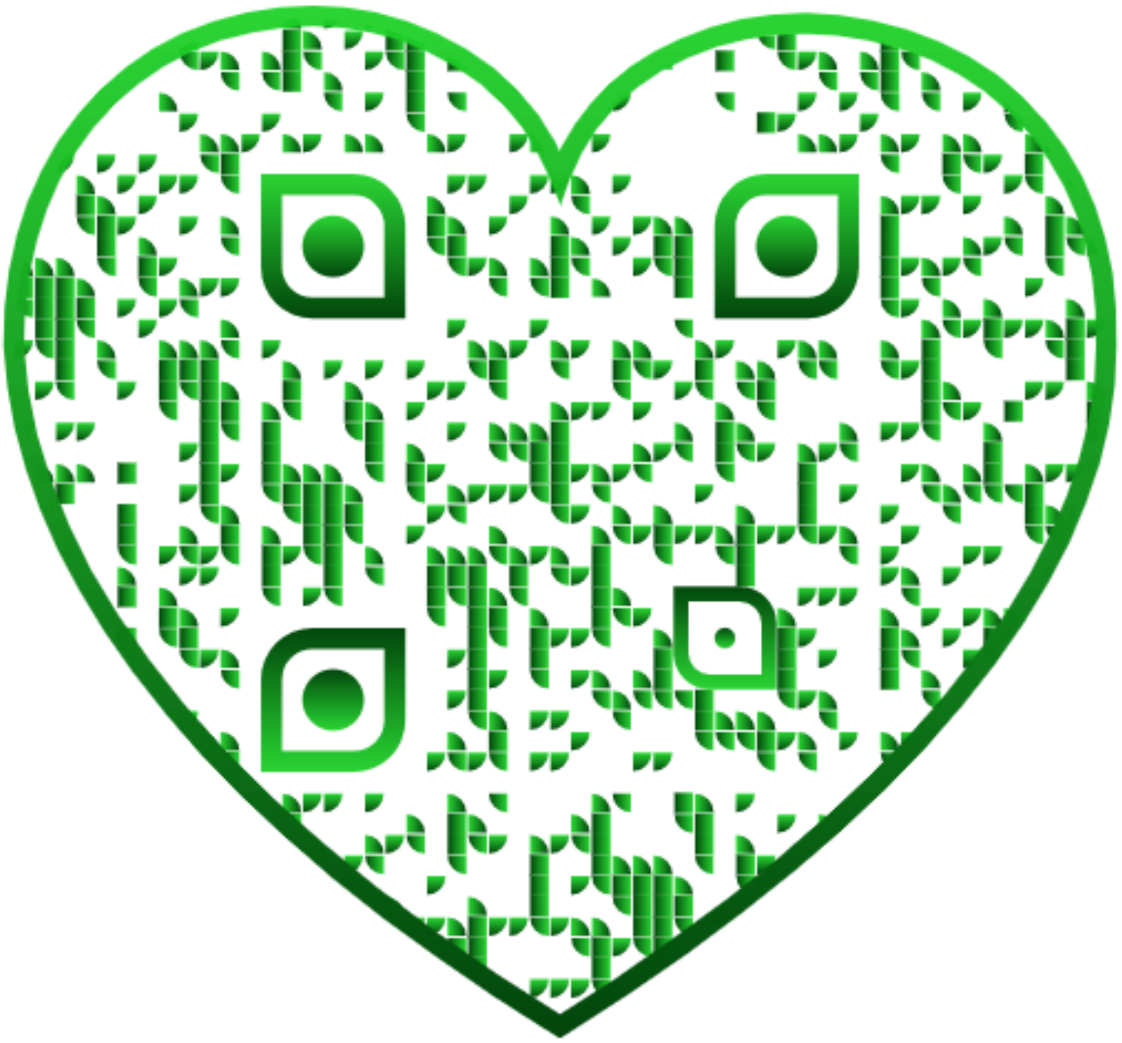

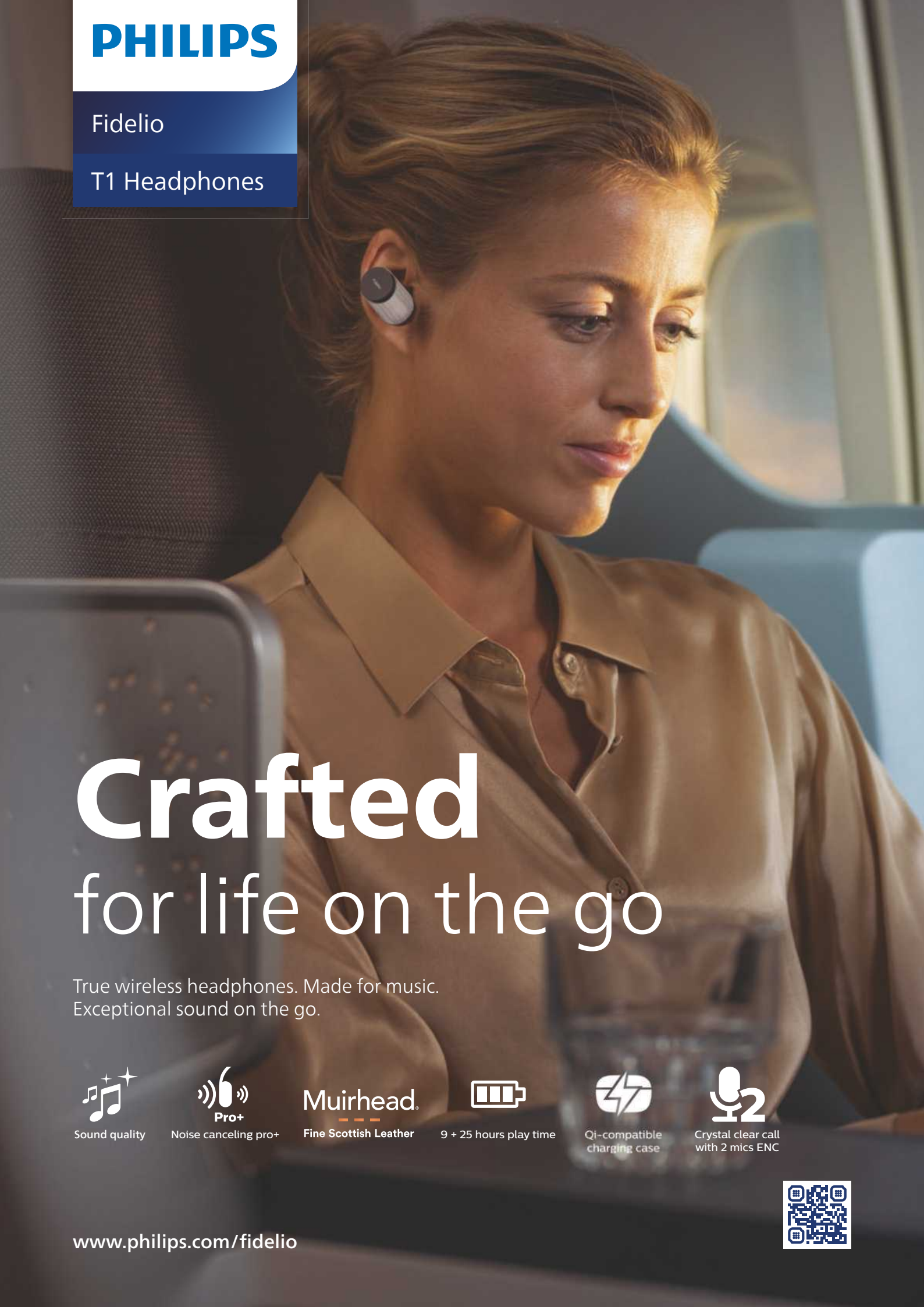
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Hi-Fi Choice
PASSION FOR SOUND

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BADGES EXPLAINED

OUR AWARDS

EDITOR'S CHOICE: Awarded to those products that are judged to deliver outstanding performance

RECOMMENDED: Products that we feel meet a high standard of performance

GROUP TEST WINNER: Comparative tests can only have one winner, and this badge says it all!

Rolling Blackouts Coastal Fever picture credit: Nick Mckk

We audiophiles will happily spend hours auditioning speakers, trying out decks and comparing amps to achieve the ultimate system. We have also been known to debate the pros and cons of 180g vs normal vinyl, any old vinyl vs CD, CD vs tape and, of course, all of 'em vs streaming or downloads.

But we probably don't often pause to think about the genesis of our preferred listening pleasures. We might show an interest in where it was recorded, in which studio and by which producer, but what about the 'how'? What is actually the best way of recording the sounds we desire to hear?

That's the very question raised by Neville Roberts in his feature on p98. Is it half-speed mastering? Should it be at 33 or 45rpm? Should it be truly analogue or in reality is digital better? Neville muses over all these conundrums and sits in on a recording session especially set up to test these theories. We've even put some recorded samples online so you can have a listen yourself and decide your preference. As always, we'd love to know your thoughts at the usual address.

Elsewhere in the issue there's a six-way *Group Test* of top wireless speakers, news of tons of ace new kit in our *Audiofile* section, plus an homage to the mighty Black Sabbath who sound pretty good to me any old way you choose to blast 'em. Plenty to enjoy...

Steve Sutherland Editor

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Hi-Fi Choice

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Tanika Charles, Music Reviews p89

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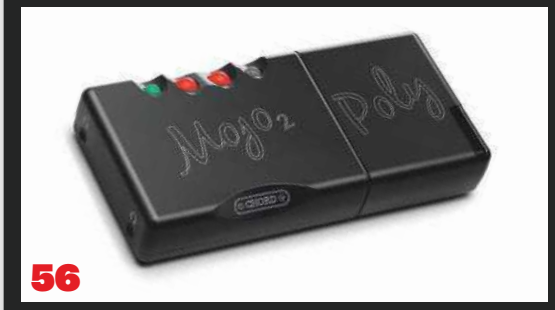

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Never miss an issue – turn to p126 for our latest subs offer

Picture credit: Shutterstock.com/Ga Fullner (Black Sabbath)

Super model

New integrated amp from Marantz

PRICE: £2,200 **AVAILABLE:** NOW
WEB: MARANTZ.COM

MARANTZ HAS INTRODUCED its MODEL 40n integrated amplifier with a new 70W per channel (into 8ohm loads) Class A/B amplifier stage. A larger power supply transformer, four output transistors per channel, heavy copper bus bars and short power pathways are intended to lower internal impedance and deliver high instant current capability: "making the MODEL 40n highly dynamic and an excellent match even for difficult-to-drive loudspeakers".

The MODEL 40n integrated offers compatibility with PCM files up to 24-bit/192kHz and DSD128. It also features built-in access to Spotify Connect, Amazon Music, Tidal and TuneIn internet radio, while wireless connectivity options include Apple AirPlay 2, Bluetooth and wi-fi – with HEOS for multi-room applications.

The MODEL 40n offers a full complement of analogue and digital inputs, including Marantz Musical Phono EQ – a moving-magnet phono stage – for vinyl playback. It also features an HDMI ARC input, making audio playback from a TV possible, and a dedicated subwoofer out with crossover adjustments.

It comes with a remote control and works with Siri, Alexa and Google voice command. The new integrated is available in a choice of two finishes: Marantz Black and Silver Gold. ▶

marantz
-30.0

Horn of plenty

Phil Jones-designed speaker coming your way

PRICE: £630 **AVAILABLE:** NOW **WEB:** AIRPULSEAUDIO.COM/EN

AIRPULSE HAS RELEASED a new bookshelf speaker – the A80 – which the company says it: "created to be the perfect combination of conventional loudspeaker and digital XMOS system".

An entry-level plug-and-play standmount from ex-Acoustic Energy designer Phil Jones, the A80 utilises the brand's signature horn-loaded aluminium ribbon tweeter and proprietary 114mm magnet ferrite mid/bass unit to drive the system. AirPulse says: "The thin aluminium ribbon diaphragm has high sensitivity, superb transient response, extended frequency range and well-defined resolution. This meticulously formulated horn shape produces directional and optimised high frequencies from the ribbon tweeter so they are aimed at the listener, minimising unwanted inflections and producing a superior, three-dimensional sound with excellently defined details."

The mid/bass driver is a hard anodised aluminium alloy cone suspended in a heavy, ultra-rigid cast magnesium alloy frame. It features a 30mm diameter voice coil and the interior is padded with professional pyramid soundproofing foam, reducing unwanted resonance, while the oval vent tube is designed with a view to minimise wind noise while in use. The A80 cabinet is built using 18-mm thick high-strength MDF and comes in Walnut or Electric Blue finishes.

Connections to the A80 include AUX, RCA, optical, coaxial, USB, professional balanced in and Bluetooth 5.0.

Bass, treble and volume controls are located on the back and a remote control that allows the user to switch between inputs, adjust volume and mute the speakers is bundled. The A80's dimensions are quoted as: 140 x 250 x 220mm (WxHxD).

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Stereophile, December 2021

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Now ZEN, now ZEN

New range from iFi Audio with an eye on affordability

PRICE: £99 **AVAILABLE:** NOW **WEB:** IFI-AUDIO.COM

IFI AUDIO IS launching its new ZEN Air range, which simplifies the circuitry and strips back some features from its previous ZEN products while retaining key core elements to enable a more affordable price point.

At £99 each, the ZEN Air DAC, ZEN Air Blue, ZEN Air Can and ZEN Air Phono look similar to their brand equivalents in the main ZEN line, featuring the same desktop-friendly size and shape but instead of the extruded aluminium enclosure they sport a synthetic polymer case with a textured finish, each in a different shade of grey.

The Zen Air DAC, like the ZEN DAC includes a headphone amp and can also be used as a DAC/preamp to feed an amp and speakers or a pair of active speakers via stereo RCA outputs. It connects to devices via USB, employs a Burr-Brown chip and supports PCM files up to 32-bit/384kHz, alongside DXD, and up to DSD256. Due to the Burr-Brown chip's True Native design, PCM and DSD take separate pathways enabling them to remain 'bit-perfect' in their native form. MQA is also supported.

Zen masters

While simplified in comparison with the ZEN DAC V2's (*HFC* 480) fully balanced topology, the ZEN Air DAC's analogue stage comes with a symmetrical channel layout and audiophile-grade circuit components, including a custom op-amp offering ultra-low noise performance, and low-impedance power supply rails with Taiyo Yuden and Murata low-ESR inductors.

Like the ZEN DAC and ZEN DAC V2, the ZEN Air DAC's headphone amp has switchable gain that matches the level of drive to the load presented by the headphones by adjusting input sensitivity and thereby signal strength.

XBass+ is another user-selectable feature, a form of 'bass boost' that enhances low frequencies without muddying the midrange.

The ZEN Air DAC omits the ZEN DAC's 4.4mm balanced outputs, but otherwise retains the same connections. A 6.3mm headphone output is at the front, with an asynchronous USB Type B input at the back and gold-plated stereo RCA outs with variable level control.

The ZEN Air Blue is a Bluetooth DAC, which performs the same function as the ZEN Blue V2, but trades some features in return for the lower price point. Using Qualcomm's advanced four-core QCC5100 Bluetooth processing chip, aptX, aptX Low Latency, aptX Adaptive, aptX HD, LDAC, AAC, SBC and HWA/LHDC are all supported. Like the ZEN Air DAC, the ZEN Air Blue's analogue circuitry has been simplified, but a symmetrical channel layout and low-impedance power supply rails are retained. The balanced 4.4mm analogue output and optical/coaxial digital outputs have been ditched, but the gold-plated stereo RCA analogue outputs remain.

The ZEN Air DAC has a headphone amp and can also be used as a preamp

The ZEN Air Blue boasts Bluetooth aptX Adaptive and aptX HD

The ZEN Air DAC has the same inputs as the ZEN DAC except its 4.4mm balanced outs

The ZEN Air CAN headphone amp, like the ZEN CAN, has no digital inputs; connecting via its analogue in. It can be paired with the ZEN Air Blue to add Bluetooth or combined with the ZEN Air DAC to upgrade its headphone amp.

iFi's quad-amp circuitry features custom OVA-series FET op-amps using a 'folded cascode' design, with feedback circuitry to optimise performance. The input stage features automatic gain matching between inputs and feeds a TOCOS precision potentiometer, while the complementary bipolar output stage uses the same Class A buffer found in more expensive iFi headphone amps. The power supply circuitry includes 'stealth mode' voltage conversion, with linear regulation, noise filtering, physical isolation from sensitive audio circuits and more than 4,000uF capacitance to keep ample power in reserve to respond to musical transients.

The Air model retains the ZEN CAN's XBass+, iFi's bass enhancer, and XSpace, which widens the soundstage to compensate for 'in-head localisation' effects. Gain adjustment to suit the connected headphones is also provided, with three steps – 0dB, 9dB and 18dB – in place of the ZEN CAN's four steps.

The ZEN CAN's dual headphone outputs – 6.3mm and 4.4mm – are also

Circuits have been simplified and features stripped back for a lower price

repeated, although the 4.4mm output is not fully balanced as it is on the ZEN CAN. Instead, it features iFi's S-Balanced circuit design, which the company claims: "cuts noise and crosstalk by 50 percent with single-ended headphone connections." Similarly, the ZEN Air CAN sports three analogue inputs, but the 4.4mm balanced input is swapped for an extra pair of single-ended RCA sockets, providing two stereo RCA ins and one 3.5mm S-Balanced socket in total.

Finally, for vinyl fiends, there's the ZEN Air Phono which iFi says offers: "excellent performance with both MM and MC cartridges". Connectivity is via gold-plated stereo RCA sockets in and out, without the 4.4mm balanced output option of the mainline ZEN Phono (*HFC* 476). A grounding terminal is also provided for attaching to a turntable's earth wire to eliminate audible hum.

The ZEN Phono's four gain settings to suit different cartridges are replaced by an MM/MC switch (40dB/64dB gain).

The ZEN Air DAC and ZEN Air Blue are available now with the ZEN Air CAN and ZEN Air Phono coming later this month. ▶

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Omnia present

Home audio system from Italy

PRICE: £1,600 **AVAILABLE:** NOW **WEB:** SONUSFABER.COM/FINESOUNDS.UK

SONUS FABER HAS launched Omnia, its 490W, DSP-optimised, seven speaker home audio system with connectivity options including Apple AirPlay 2; Chromecast Built-in; Spotify Connect; Tidal connect and Bluetooth aptX HD. It is also Roon Ready.

Omnia features two new trademarked Sonus faber technologies: SENSO and CRESCENDO. The touch-sensitive SENSO interface allows users to directly control Omnia and connect to any digital source wirelessly. Illuminated lines on the SENSO top panel indicate the speakers' mode, input and volume and in addition to wireless connectivity, Omnia includes a wired Ethernet connection, plus HDMI ARC to enhance TV sound with a single direct connection. Users can also hook up turntables via Omnia's built-in (MM) phono stage, plus one other (analogue) home audio device, via the unit's switchable RCA input.

Sonus faber's CRESCENDO technology is an advanced signal-processing system (DSP) that the company claims: "introduces a greater sense of dimensionality and immersivity, cleverly utilising the two full-range side speakers."

Sonus faber goes on to say that: "Omnia benefits from three-dimensional sound to immerse listeners in a unique, natural acoustic experience, with class-leading clarity and a wide soundstage that mimics live performances," and it includes a 490W amplifier with seven loudspeaker drivers. The speakers are a pair of 19mm silk-dome tweeters with Neodymium slug structure magnet motor system, two 76mm paper-pulp cone midrange drive units, a single 165mm long-throw bass woofer with aluminium down-firing driver and two 44mm full-range drivers with a non-pressed cellulose pulp inverted dome that's activated with CRESCENDO.

Audio inputs include HDMI ARC 2-channel and an analogue MM phono/line-in. Network connectivity comes via Ethernet and wi-fi. It weighs 7.6kg and measures 650 x 130 x 280mm (WxHxD).

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Non-essential signal carrying wires are eliminated, exemplified by the use of surface mount components when possible and by directly connecting the output stage to the speaker binding posts free of wires or solder to interfere with power delivery.

▶ For more details, go to Primare.net

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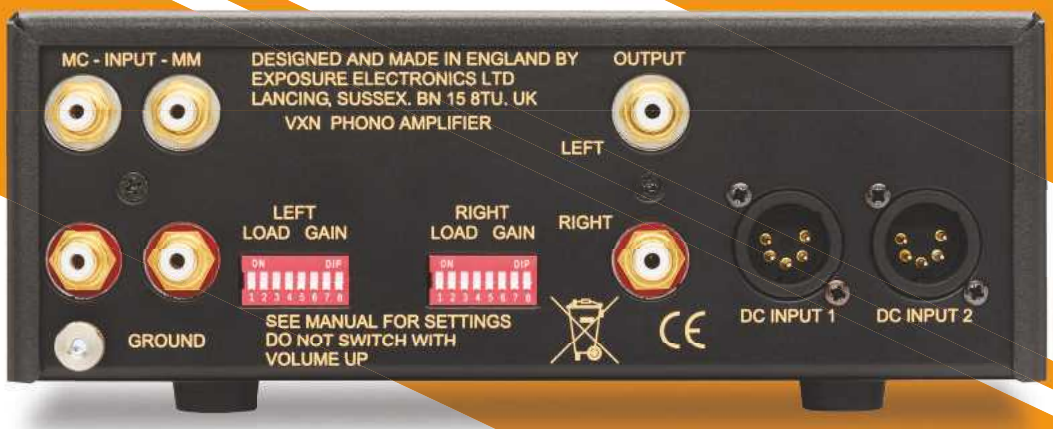
Recent Exposure

New top-of-the-range phono amp

PRICE: £1,790 **AVAILABLE:** NOW **WEB:** EXPOSUREHIFI.COM

BRITISH COMPANY EXPOSURE has released its new top-of-range VXN phono amplifier. Designed to be partnered with its VXN Power Supply, it forms a two-box set-up in which the phono circuits are entirely isolated from the power supply circuitry for the lowest possible noise and highest possible performance. Two VXN power supplies can be used, one for each channel, in a three-box, dual mono configuration. The company explains that fully adjustable input stages can be tailored for either moving-magnet or coil cartridges and all audio circuits use discrete transistors only; there are no integrated circuits in the signal path.

With adjustable loading and gain switches located on the back panel, the new phono amplifier comes in high-quality all-aluminium casework with an extruded front panel to control resonance and stray electromagnetic fields. The VXN comes with a three-year guarantee, measures 218 x 89 x 348mm (WxHxD), weighs 3kg and the finish is black.



Your room with a view

New upgraded soundbar from B&W

PRICE: £900 **AVAILABLE:** NOW **WEB:** BOWERSWILKINS.COM

BOWERS & WILKINS has unveiled its Panorama 3 soundbar with Dolby Atmos spatial audio. Boasting both AirPlay 2 and aptX Adaptive Bluetooth, iOS and Android users can stream music to it from their mobile devices and it also features Spotify Connect. For hi-res listening, the Panorama 3 also supports the Bowers & Wilkins Music App, giving listeners instant access to a host of streaming services including Deezer, Last.fm, Qobuz, Soundcloud, Tidal and TuneIn with the choice of available services set to expand later in the year.

The Panorama 3 – named, like its two predecessors, in tribute to two iconic film technologies from the golden age of cinema (Panavision and Cinerama) stands 65mm high, 140mm deep and 1,210mm wide – its low profile designed to make it easy to install, setup and live with. It features 13 individual drive units arranged in a 3.1.2 configuration and is the first B&W soundbar to feature true Dolby Atmos upwards-firing drive units. Specifically engineered by the company to deal with spatial audio soundtracks and angled at the top to deliver optimal immersion, the 50mm drive units are accompanied by a Dolby Atmos decoder and processor to deliver spatial audio soundtracks on music, TV, film and game streams. The decoder also handles Dolby Digital and Dolby TrueHD audio streams.

Friendly fire

The twin Atmos upwards-firing drive units complement the Panorama 3's forward-firing array of drive units, arranged in a left, centre, right (LCR) configuration, each with twin 50mm midrange drivers partnered by fully decoupled 19mm titanium-dome tweeters. Finally, there are twin 100mm subwoofers mounted in a substantial acoustic volume that forms the majority portion of the enclosure with the aim of ensuring deep, extended bass without need for an external subwoofer. It boasts a total of 400W of output: 40W to each tweeter, 40W to each pair of midrange drive units, 40W to each subwoofer and 40W to each Dolby Atmos Elevation drive unit.

A metal wall bracket is included for if you prefer to mount your soundbar on the wall rather than in front of the TV, while an ARC/eARC HDMI connection links the Panorama 3 to your TV and shares the sound from any other sources you may also have, such as a set-top box or games console. Once connected via HDMI, you can use your TV or satellite/cable box remote to control the Panorama 3's volume and power functions. An optical digital input is also provided for older TVs.

Panorama 3 also includes capacitive-touch 'hidden until lit' buttons on its top surface for instant control and features built-in Alexa, allowing voice control over your listening. ▶

Up on the woof!

New bass addition to Home Speaker range

PRICE: £450 **AVAILABLE:** NOW
WEB: DENON.COM

DENON HAS JUST released the Home Subwoofer – its high-performance wireless sub, which the company says: "adds clear, extended bass to the Denon Home Sound Bar 550 or any Denon Home wireless speaker". The 203mm bass driver has been fitted to a compact enclosure that matches the design of Denon's Home speakers and soundbar and comes with HEOS built-in for multi-room applications. It can be wirelessly paired with the Denon Home Sound Bar 550 and users can also add a pair of Denon Home wireless speakers, creating a 5.1 surround sound experience. Settings for output level, low-pass filter and phase can be adjusted within the HEOS app to optimise the subwoofer for more challenging room acoustics.

Pocket rocket

On-the-go DAC from EarMen

PRICE: £289 **AVAILABLE:** NOW
WEB: SCVDISTRIBUTION.CO.UK

Portable audio specialist EarMen has introduced a new balanced, battery-powered device – the Colibri, a pocket-friendly USB DAC, preamp and headphone amp.

Featuring a fully balanced 4.4mm output, the Colibri has its own battery so it won't consume power from the sound source. It comes with a gold-plated PCB and a full set of buttons on its side offering audio control while on the go. Compatible with Apple and Android mobile devices, it's housed in a stylish CnC-milled aluminium block with both sides glass surfaced.

Colibri supports hi-res PCM files up to 32-bit/384kHz, DoP, up to DSD128 and MQA. It measures 77 x 14 x 35mm (WxHxD), weighs 51g and boasts a claimed battery life of up to five hours per charge.

Pure and simple

Wireless earphones from Shoreham-By-Sea

PRICE: £120 **AVAILABLE:** NOW **WEB:** LYPERTEK.COM

UK COMPANY LYPERTEK has launched its PurePlay Z5 true-wireless earphones with Hybrid Active Noise Cancelling technology and a newly developed PureControl ANC app. Lypertek has also developed its brand new PureControl ANC app, specifically designed for the PurePlay Z5 – which the company says provides added functionality and a personalised service to create your own individual setup.

The PurePlay Z5 features an Ambient Sound Mode to hear the world around you without removing your earphones and Auto-Ambient – a new feature designed and developed by Lypertek with the aim of reducing the need to interact with earbud controls – automatically activating Ambient Sound Mode when audio playback is stopped or paused. This feature can easily be switched on or off via the app.

Then there's LDX Audio Mode, which provides a fully programmed sound profile specifically designed for the PurePlay Z5. Touch-controls and a selection of eartips are also provided. The PurePower tips are made from a thick silicone with a narrow bore design for a focused and powerful sound. The PureSpace eartips use a thinner silicone and wide bore design for a more spacious and open sound, and the PureComfort tips use high density foam for added comfort and smoother sound. The PurePlay features 10mm dynamic drivers, a cVc8.0 2 mic setup and up to seven hours of battery use per charge.

Pronounced low-key

New compact subwoofer from Utah

PRICE: £9,000 **AVAILABLE:** NOW **WEB:** WILSONAUDIO.COM/ABSOLUTESOUNDS.COM

WILSON AUDIO HAS added a new subwoofer to its range of speakers. The LõKe (pronounced "low-key") is the US brand's smallest and most compact sub yet, measuring 352 x 527 x 552mm (WxHxD), and is an extension of the company's TuneTot eco system. LõKe encompasses compatibility across the full range of TuneTot bookshelf speakers, and the company claims it fundamentally expands the core capabilities of its other smaller floorstanding loudspeaker models including: SabrinaX, Yvette, Sasha DAW and all of their predecessors.

Taking data points from Wilson's larger subwoofer systems – Subsonic, Thor's Hammer and WATCH Dog – LõKe is an all-in-one that's claimed to be simple to setup and easy to manage. Incorporated into LõKe's built-in 500W amp are the most utilised functions from Wilson Audio's ActivXO Dual Subwoofer Crossover, including crossover frequency, crossover slope, phase and level.

There are 21 colour options available. Standard, at £9,000, comes in Galaxy Gray, GT Silver, Quartz and Carbon. Upgrade, at £9,500, comes in Obsidian Black, Ivory (main pic), Diamond Black, Fly Yellow, Estoril Blue, Nara Bronze, Pur Sang Rouge, Cobalt Blue Satin, Chalk, Classic Orange, Oak Green and Crimson Satin. Premium Pearl, at £11,000, comes in Saffron Pearl, Bergamot Pearl (above), Cranberry Pearl, Olympia Pearl and Viola Pearl. In addition there is a choice of four grille colours.

Healthy hearing

Yamaha's new earbuds feature Listening Care technology

PRICE: £129 **AVAILABLE:** NOW **WEB:** YAMAHA.COM

RELEASED ON WORLD Hearing Day, Yamaha's new TW-E5B true wireless earbuds feature the company's Listening Care technology intended to provide intelligent equalisation at any volume, helping to support safe listening.

Designed so that the 7mm driver unit and exit are placed on the same axis as the sound conduit, the TW-E5B is designed to eliminate obstacles from the sound conduit to the sound exit as much as possible.

Yamaha explains that by driving the diaphragm quickly and accurately in response to the input signal, a clear high-frequency range can be reproduced. Additionally, a small hole is on the rear side of the earbuds to control the back pressure generated from the driver in a bid to maximise the use of air inside the earbuds – leading to the claimed reproduction of a rich low range with a three-dimensional feel.

The housing design has an edge to fit the ear while the oval shape of the buds allows the user to rotate them to fit in any position when worn. Four sizes of eartips are provided.

Yamaha says it is keenly aware that reports suggest one billion young people are at risk of developing avoidable, permanent hearing loss due to unsafe listening practices. The long-term impacts may be especially compounded by daily wear of earbuds and headphones at high volume levels. "It has become one of our social responsibilities to ensure our customers can enjoy music for many years to come," explained Yoshi Tsugawa (Senior General Manager, Home Audio Division, Yamaha Corp). "Listening Care is one of our unique features, which allows for a True Sound listening experience for a lifetime, without losing any musical expression at any volume."

The company statement continues: "Due to the nature of our hearing, when listening to music at low volumes, we often feel there is a lack of high and low frequencies. In order to hear these hard-to-hear sounds, we often turn up the volume excessively. In order to prevent the need for excessive volume, Yamaha Listening Care adjusts the difficult-to-hear high and low frequencies so that the original tonal balance of the music is maintained."

The new buds come with an ambient sound mode for use when you need to be aware of your surroundings, a Gaming Mode to reduce the delay between sound and video and are IPX5 water and sweat resistant. Battery life is quoted at up to 30 hours and the charging case has battery life indicators (8.5/21.5 hours).

Poles apart

New Polish imported desktop DAC/ headphone amp

PRICE: €2,400 **AVAILABLE:** NOW **WEB:** FERRUM.AUDIO

POLISH COMPANY FERRUM has launched its new ERCO desktop headphone DAC/amp, which comes with its logo cut in corten steel on the front and three control dials – one to control volume, one to set the gain level to match your headphone and one to select from four inputs. A small LED indicating MQA status sits beside the two headphone outputs, one balanced Pentaconn and one unbalanced jack. The ERCO boasts a DAC chip from ESS and on the rear are four inputs and a trigger out. You can connect one analogue and three digital devices (via optical, coaxial or USB-C) and two output devices, one balanced (XLR) and one unbalanced (RCA). The logo brightness can be dimmed with the slider and the two DC power inputs (FPL and standard 2.5mm DC pin) connect ERCO with your power supply of choice.

Designed to play right out the box, it can also be used together with the company's HYPSOS power system using its proprietary FPL cable. The ERCO measures 217 x 50 x 206mm (WxHxD) and weighs 1.8 kg. ▶

BAT

"OUTSTANDING!"

hi-fi news OUTSTANDING PRODUCT

"...an imperious blend of lush looks, audiophile engineering and stellar performance across all musical flavours."

VK-3500 amp, Hi Fi News September 2021

"more delicacy than my ears could process...Musical? Naturalistic? Intimate? Take your pick."

VK-80i amp, Hi Fi News December 2021

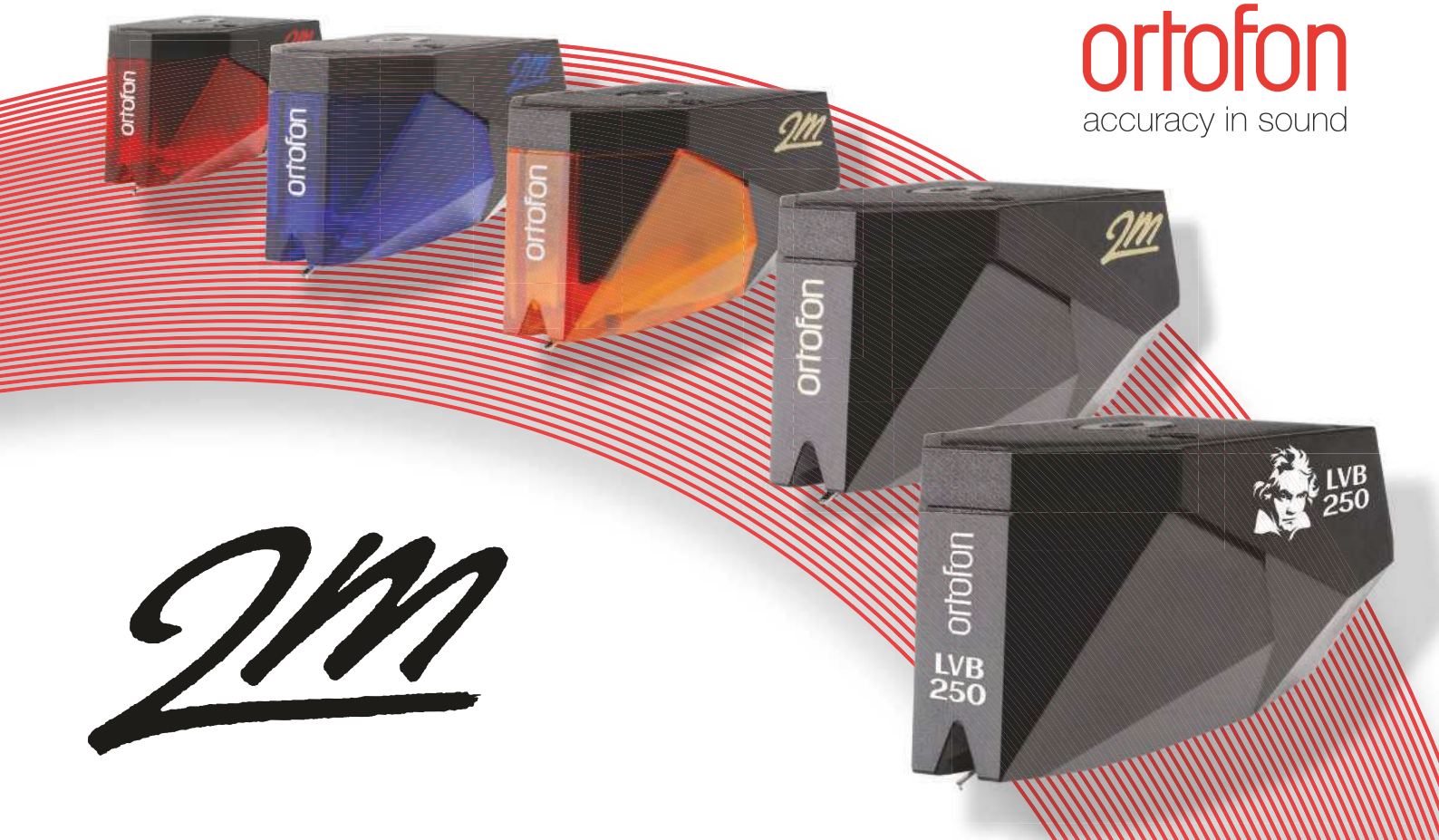
"this unashamedly expensive converter gets you closer to the music without you even realising it's doing it. Just let it weave its magic..."

REX 3 DAC, Hi Fi News May 2020

Balanced Audio Technology
balanced.com

karma
audio-visual

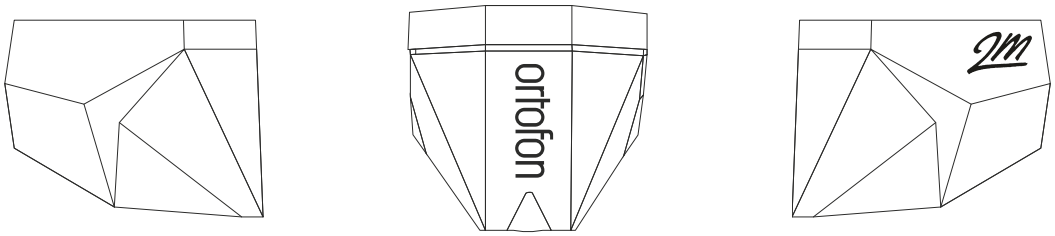
ortofon
accuracy in sound



2M

The 2M Series, so named after the abbreviation of Moving Magnet cartridges (MM), features Ortofon's split-pole pin technology for a flat frequency response, a high output for easy integration into any system and a striking visual design inspired by the facets of a diamond. Beginning with the **2M Red**, a reliable all-round performer with an open and dynamic sound, and moving up to the popular **2M Blue** with its nude-mounted elliptical stylus; the range is great for those looking for quality vinyl sound on a budget. Through the **2M Bronze** and **2M Black** models, the bigger budget delivers upgraded cartridge body materials and even more impressive stylus profiles for true high-end sound experiences. The award winning **2M Black LVB 250** sits at the top of the range thanks to its Shibata diamond, nude mounted on a boron cantilever for an intricate, delicate and detailed sound performance that simply cannot be beaten.

2M cartridge design:



2M Red
- September 2013
- May 2007

2M Blue
- September 2013
- May 2007

2M Bronze
- November 2007

2M Black
- September 2020
- December 2011

2M Black LVB 250
- September 2020
- December 2011
- EISA Award 2021
- May 2007

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Voodoo chile

Floorstanding magic from the UK

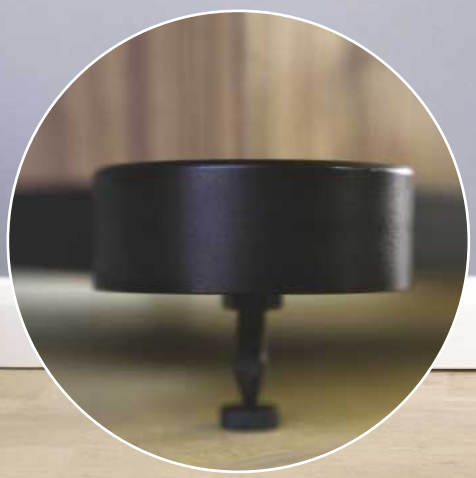
PRICE: £14,000 **AVAILABLE:** NOW **WEB:** OPHIDIAN.CO.UK

BRITISH MANUFACTURER OPHIDIAN has launched Voodoo, a 1.3m-tall three-way floorstanding loudspeaker featuring the company's Aeroflex bass loading system and boasting a claimed sensitivity of 87dB into 4ohm loads. Its dual 265mm drivers feature thick black anodised aluminium cones, dual voice coils and triple shorting rings with the aim of reducing distortion. The company says they're capable of displacing over an inch of movement and producing solid bass extension down to 26Hz.

The single 180mm mid/bass driver also features black anodised aluminium cones with solid aluminium phase plugs and is loaded within its own damped sub-enclosure so that the external walls of the cabinet aren't able to colour the sound.

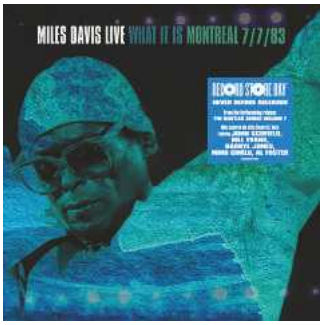
The 22mm fabric soft dome tweeter with a Sonomex dome features a large magnet in a bid for excellent transient response and the large roll surround allows a quoted response extending beyond 20kHz.

Voodoo sits on a plinth, which has been CNC machined from a solid block of aluminium and weighs 11kg alone. As with all Ophidian loudspeakers, the crossover exclusively uses parts from Mundorf while the binding posts are from WBT. The Voodoo comes in a Walnut finish, but custom polyester paint finishes will be available for an extra charge in any colour the customer desires.



RECORD STORE DAY TUNES FOR JUNE

AS HAS BEEN WIDELY reported, largely due to COVID, there's a bit of a backlog internationally at vinyl pressing plants – which has impacted on Record Store Day's event on 23 April. To counter this there will be a follow-up RSD drop, so we're adding to last month's big list with a dozen choice releases which will now hit your local indie shop on Saturday 18 June.



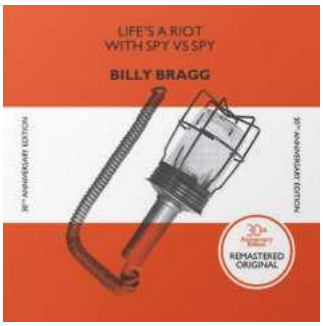
1 Miles Davis: *Live In Montreal, July 7, 1983*
This double vinyl LP features a set Miles and his stellar band played at the Theatre St-Denis during the Festival International De Jazz De Montreal, released for the very first time. Later this year it will appear on CD and digitally, but for now the vinyl is the only way to wrap your ears around it. Including the popular tracks *Hopscotch*, *Jean-Pierre*, *What It Is* and *That's What Happened* among others, it comes in a gatefold sleeve.

2 Dio: *Double Dose Of Donington*
This picture disc captures Ronnie's band at the UK's premier HM festival. Side A features *Stand Up And Shout* from 1983, while side B is *Rock And Roll Children* from four years later.

3 Heartbreakers: *The LAMF Demo Sessions*
What we have here is four demo sessions from Johnny Thunders and his band recorded in 1976 and 1977 compiled onto one LP pressed on transparent magenta vinyl with a 12in poster of the *LAMF* cover photo and an inner bag sporting an interview with guitarist Walter Lure.

4 Altered Images: *The Return Of The Teenage Popstar*
This four-track greatest hits EP from the Eighties Scots chart sensations is released just in time to coincide with a new tour and LP.

5 Billy Bragg: *Life's A Riot With Spy Vs Spy*
In celebration of the 30th anniversary of the Double B's



debut LP, this one comes on glorious coloured vinyl.

6 Emerson, Lake & Palmer: *Trilogy*
Picture disc version in die-cut sleeve of the prog trio's third LP, originally released in 1972.

7 The Farm: *Groovy Train*
A 140g coloured vinyl 12in reissue of the band's second biggest hit, which comes with three special remixes.

8 Fatboy Slim: *Praise You/Right Here Right Now Remixes*
Remixes of a couple of Norman Cook's dancefloor goodies courtesy of Purple Disco Machine and Camelphat, gathered together on vinyl for the first time with new artwork.

9 Keith Richards: *Talk Is Cheap/ Live At The Palladium*
A proper rarity, this is a double cassette, specially created for RSD featuring the founding Stone's debut solo album plus a live gig from the supporting tour.

10 The Kinks: *Waterloo Sunset*
This mono, remastered six-tracker comes on 12in yellow vinyl to mark the 55th anniversary of the classic hit single. The artwork is from the original 1967 French release.

11 Pearl Jam: *Live On Two Legs*
Sixteen tracks from the band's 1998 US summer tour undertaken in support of the *Yield* LP. This is a vinyl double in a gatefold sleeve.

12 Prince: *The Gold Experience Deluxe*
When it first came out in 1995, *TGE* was Prince's debut release under his unpronounceable symbol moniker. It features *The Most Beautiful Girl In The World* and *Eye Hate U* among other tracks and this version of the album is double pressed onto translucent gold vinyl with a bonus suite of *Eye Hate U* remixes on the fourth side.

To find your nearest participating indie record store go to ***recordstoreday.co.uk***

Wireless Fidelity
Has a New Champion

The Expert Imaging & Sound Association of as many as sixty specialist magazines from around the world has honoured System Audio with its Best Wireless Speaker Award two years running! Located at Roskilde, the music city of Denmark, System Audio has received more than 150 awards for sound, design and innovation since 1984.

EISA AWARD Best Product 2021-2022
WIRELESS FLOORSTANDING LOUDSPEAKERS
System Audio Legend 40.2 Silverback

EISA AWARD Best Product 2020-2021
WIRELESS LOUDSPEAKER
System Audio legend 5 silverback

background image by Markus Spiske on Unsplash

karma audio-visual

01423 358 846 karma-av.co.uk

DETAILS

PRODUCT
Matrix Audio X-Sabre 3

ORIGIN
China

TYPE
Network-attached DAC/Streamer

WEIGHT
3.4kg

DIMENSIONS
(WxHxD)
310 x 43 x 218mm

FEATURES
- 32-bit/768kHz, DSD512
- ES9038 Pro DAC
- MQA compatible
- Balanced XLRs

DISTRIBUTOR
Signature Audio Systems, UK

WEBSITE
matrix-digi.com
signaturesystems.co.uk

Tasty sounds to Sabre

Matrix Audio's compact but comprehensively equipped digital front-ends are distinguished by superb chipsets and features. ***HFC*** steps into paradise with this flagship converter

For anyone still under the outdated misapprehension that Chinese-made hi-fi means cheap and cheerful alternatives to the big-name brands, it's time for an eye-opener.

In practice, not only are quite a few of those big names having their products made in China, but its home-grown brands are also stepping up their game and making serious inroads into markets that were once dominated by Western and Japanese names. A case in point is Matrix Audio – the company founded in 2009 by three music-obsessed friends who met in high school in the ancient city of Xi'an – and more specifically the X-Sabre 3 we have here, following on from the X-Sabre Pro DAC, Element X (*HFC* 473) and more recently the Mini-i Pro 3 (*HFC* 482).

The X-Sabre 3 is the latest flagship addition that comes cloaked in the company's unique 'hewn from solid' aluminium casework. Available in a choice of silver or black finishes, it's a very sleek-looking device, two-thirds width at 310mm, but standing just a smidge over 40mm tall, and with its bevelled fascia treatment – within which sits a neat, slender bar of touch controls and a small but easily legible circular display – it has a suitably classy and slightly mysterious look.

Cat that got the stream

Like the X-Sabre Pro, the X-Sabre 3 eschews any headphone amplifier functionality. So this is a purely line-out device via its RCAs and balanced XLRs, although it does offer the choice of either fixed or variable-level output, allowing it to be connected straight into a power amp or active loudspeakers using its DSP-driven volume control. That's the foundation of a very simple but effective streaming system, with nothing more than a network connection to the X-Sabre 3, and output to an amp or active speakers.

Such a truly minimalist high-end setup would be all but invisible given the X-Sabre 3's limited dimensions, and controllable via the supplied remote, the company's MA Remote app on a smartphone or tablet or even as part of a Roon system. For that last option you'll need an external device running the Roon Core software or Roon OS (and a Roon subscription, of course), though this needn't be either large or visible. You might use one of Roon's own devices (like the Nucleus +, *HFC* 439) or, as we opt for, a tiny Intel NUC mini-computer.

You can connect the X-Sabre 3 to a computer via its USB-B input, but there seems little point when the unit has its own onboard streaming implementation, fed via either wired Ethernet or wi-fi. Meanwhile, for those with 'legacy' digital components, the X-Sabre 3 also offers both coaxial and optical S/PDIF inputs plus an I²S-LVDS input via an HDMI connector for suitable digital sources, including Matrix Audio's own X-SPDIF 2 USB interface.

While the coaxial and optical inputs are limited to up to 24-bit/192kHz and DSD64 via DoP, the X-Sabre 3 offers much wider format handling via its USB, network and I²S-LVDS connections, pushing the resolution up to 32-bit/768kHz and native DSD512, as well as offering standard MQA and MQA Studio Stream decoding as part of its Tidal Connect implementation. It's also the first Matrix Audio product to support the

HOW IT COMPARES

Versatile streamer/DAC/preamps are making an impact in the audiophile world and Matrix Audio is very much in the vanguard of this technological push. Hot on its heels is the £3,250 Pro iDSD Signature from iFi Audio with its rich, weighty, controlled and highly informative sound. It includes a host of digital filters plus adds a very capable headphone amp. Meanwhile, the £3,250 RS150 from Hi-Fi Rose (*HFC* 477) has a full-width touchscreen. This accomplished network player/DAC includes the custom 'Rose Connect' app and the most supremely comprehensive connectivity – including HDMI video – available at any price.

Spotify Connect service. As befits a device with high-end aspirations, there's no Bluetooth but when suitably hooked up to a network, the X-Sabre 3 can offer Apple AirPlay 2 connectivity with portable devices – and computers running Apple Music – over the user's home network.

While bearing a more than passing resemblance to the X-Sabre Pro and offering a broadly similar range of capabilities, we're duty bound to ask what's new here compared with the five-year-old model, aside from the built-in streaming technology. The answer is "quite a lot", as from the casework to the processor that sits at its heart, everything has been revised and upgraded. The X-Sabre 3 may only weigh 3.4kg – 'only' is relative when it comes to 'no moving parts' devices such as this – but it still feels solid and substantial, thanks to its aforementioned one-piece machined aluminium casework.

It's some 10mm narrower and 3mm shallower than the older model, this forming the entire housing apart from the baseplate and the tempered glass top panel, under which are concealed the twin wi-fi antennae. So there's no need for rubber stubs here. All the internal components hang from this aluminium structure in an 'upside down' configuration. The milled enclosure is segregated into separate compartments to isolate the power supply's toroidal transformer, the digital and analogue sections and the streaming board from each other and any external interference.

At the heart of the X-Sabre 3 is a new processor, a quad-core 1.2GHz NXP i.MX 6 Cortex-A9 to be precise, which handles all the extra demands of the new model's streaming capability. The display on the front is also new – a high-resolution LCD device and, while extremely tiny, it displays album artwork when streaming: "aligning with current technological demands from a user's perspective", as Matrix Audio rather clunkily explains it.

The X-Sabre 3 allows you to appreciate every little bit of studio finessing

Otherwise, while it shows setup and operational information, you're likely to find the well-designed in-house MA Remote app – available for both Android and iOS – a rather more comfortable experience.

The digital-to-analogue conversion here is in the hands of the ubiquitous ES9038 Pro DAC with a Crystek CCHD-950 clock that, via both a front-panel touch-button or remote control, allows the converter to work in asynchronous or synchronous modes. The former, asynchronous upsampling, mode is definitely preferable on sonic grounds.

Sound quality

The X-Sabre 3 offers a range of user-selectable digital filters, using a key with a little 'slider' symbol. However, Matrix Audio has rather got its wires crossed when labelling the various settings and after some time playing with them, we struggle to discern any consistent preference between them, finally settling on the apodising filter – we think! – for the remainder of the listening session.

Even with the trippy-hippy live bonkersness of Gong's *Pulsing Signals* album, it is clear that the X-Sabre 3 sounds at its best either streaming directly or using a Mac mini computer as the source, connected via USB and with the DAC running in asynchronous ▶

CONNECTIONS

1. Balanced XLR analogue outputs
2. RCA analogue outputs
3. I²S-LVDS digital input (on HDMI)
4. Optical/coaxial digital inputs
5. USB-B digital input
6. Ethernet port

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twenty5.21*i* - May 21

twenty5.22*i* -June 20

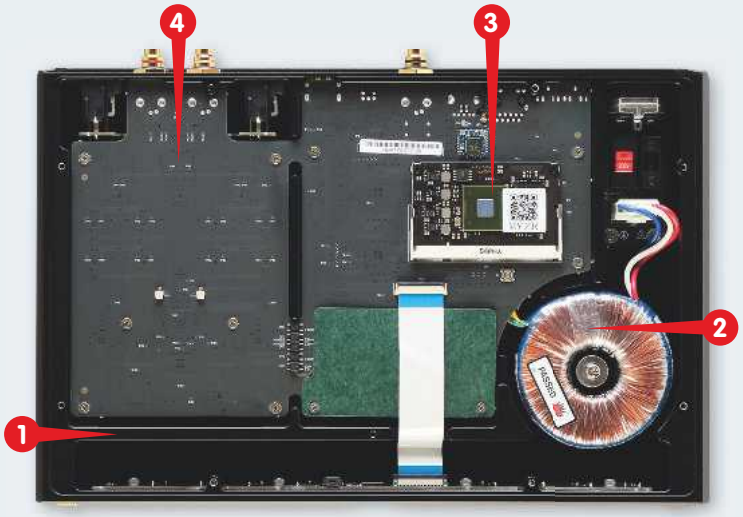
twenty5.23*i* - March 21

twenty5.26*i* - Oct 20

twenty5.26*i* - Nov 20

twenty5.26*i* - Dec 20

IN SIGHT



1 The alloy case includes CNC-machined sections that screen critical circuit areas

2 The toroidal transformer feeds separately regulated supplies for digital and analogue circuits

3 The main digital board includes an embedded network solution

4 The underside of the analogue board with twin ES9038 Pro Sabre DACs and a fully balanced output stage

FUN WITH FILTERS

The X-Sabre 3 is not the first Matrix Audio product to utilise the top-flight ES9038 Pro Sabre DAC and so it has plenty of experience with the range of inbuilt digital filter algorithms. Semiconductor brand ESS offers the audiophile designer seven alternate digital filter modes – five with 'fast' (sharp) roll-off characteristics and two with 'slow' (gentler) treble roll-offs. In all cases there's a trade-off between the filter's ability to reject digital alias distortions (the ultrasonic 'reflections' of the real audio signals), the phase distortion and flatness of its response and the level of any ringing either side of transient signals. Pre-ringing, or ringing *before* a musical transient, is not something that occurs in nature and is thought to be subjectively worse than ringing – a time domain distortion – *after* the musical event. For the X-Sabre 3, the fast filters – linear phase, brickwall, hybrid minimum phase and apodising – all offer a similar 80dB attenuation of digital aliasing images with 48kHz media. The fast linear phase, brickwall and apodising types show pre/post ringing on impulses and a flat response to 20kHz while the fast minimum phase filter has an equally flat response, but fairly aggressive post-event ringing. The hybrid minimum phase type has some limited pre-ringing, but reduced post-ringing – albeit with a more severe treble roll-off. The slow minimum phase and linear phase types have reduced ringing, but a poorer 14-18dB rejection of aliasing distortions and gentler, but not insignificant, treble roll-offs.

mode. Switching to synchronous working adds even more confusion to the somewhat chaotic sound, a trait also much in evidence when clearer, cleaner recordings are loaded up.

The asynchronous mode yields better clarity and dimensionality across the frequency range if you use the X-Sabre 3 as a 'computer DAC' or simply streaming to it, either using UPnP/DLNA from network storage or letting Roon do the job.

The sound is quite capable of being breathtaking, as it is with the intense focus of Trío Arriaga's *Elegie* set of *Tchaikovsky And Shostakovich*. Listening to this remarkable ensemble in the format of the original recording, there's glorious presence in the wonderfully resolved instrumental timbres, not to mention a fine sense of the interplay between the three musicians, combining fluidity and genuine drama.

Impressively you really don't have to go for big 'warhorse' recordings to hear what this DAC is capable of, and that's certainly true with the simplicity of pianist Espen Eriksen and trumpeter Gunnar Halle's *Sangboka*. Eriksen's piano has superb weight and real percussive impact, while Halle's horn has an intimate breathiness whether playing close-up before Eriksen's rhythmic basslines, sliding back into an ethereal presence while the pianist solos, or when wreathed in electronic 'voices'.

That's not to suggest that the X-Sabre 3 is all about making the most of delicate, close-miked recordings. With the Swedish Chamber Orchestra/Thomas Dausgaard cycle of *Brahms Symphonies* there's no shortage of weight and drama right from the very opening of the *First*, while the insight into the fine detail of these 'small scale' performances is remarkable, the X-Sabre 3 delivering a well-resolved view of the breathtaking forces involved.

For those more used to 'big band' Brahms, it's a novel experience, revealing more of the intricate texture of both scoring and performance. Similarly, it sounds all the more charming and intriguing by resolving the brisk tempi with a sharp-focused clarity as Dausgaard cracks right through the *First* in about 45 minutes rather than the traditional and typically expansive hour!

Even with the slightly thin sound of Steely Dan's live *Mobile Homes*, from a 1974 radio broadcast, the X-Sabre 3 gives a thrilling account of the breakneck version of *Bodhisattva,* originally featured as the opening track on the band's second LP, *Countdown To Ecstasy*. I'm not sure if the band had a plane to catch back from Seattle to LA, but this high-tempo speed is maintained throughout the whole set, and while the sound is far from hi-fi demo quality, the clarity of the performance still makes for a fascinating listen, proving it doesn't need state-of-the-art recordings to do its stuff.

Give it just such a lavish recording, however, and the X-Sabre 3 allows you to appreciate every little bit of studio finessing. Adele's *30* may not be to everyone's taste, with its introspection and snippets of personal conversations sometimes creating a cloying atmosphere of too much personal information being revealed and shared, but the production is unarguably wonderfully lush and rich, whether with the more obvious stompers or simply the sheer power of her stunning voice on *To Be Loved.*

From the casework to the processor, every element has been upgraded

Conclusion

While the engineers were clearly kept on their toes, the X-Sabre 3 is fully in control throughout. It reveals all the studio nuances and permits those sometimes extraordinary vocals full rein, creating the impression that – like it or not – you're getting everything the album intended, and in truly magnificent style. Hear it for yourself to be suitably impressed ●

Hi-Fi Choice OUR VERDICT

SOUND QUALITY ★★★★★

VALUE FOR MONEY ★★★★½

BUILD QUALITY ★★★★★

FEATURES ★★★★½

LIKE: Solid heft; good presence

DISLIKE: Digital filters may prove a distraction

WE SAY: Offers superb network audio with minimum fuss

OVERALL ★★★★½

How we test

Hi-Fi Choice employs the most methodical test and measurement regime in the business. Here's how we do it...

Unique group tests

Our *Group Tests* are supported by rigorous and exhaustive listening tests carried out by experts

WIRELESS LOUDSPEAKERS GROUP TEST

CARRYING OUT THIS roundup proves to be quite complex in one respect, because we are assessing products that purport to do pretty much the same thing – play music wirelessly in a relatively compact space – yet they all have their own specific ways of doing this. So each is examined on a 'case-by-case' basis rather than following our usual strict methodology.

Each speaker system is plugged into the mains, connected up with any umbilical tethers that are needed, then the relevant apps are downloaded and the speakers fired up. The quick-start guide for each setup is followed; all are pretty self-explanatory. We find that the systems generally do what the guide suggests will happen during setup – although the Cabasse needs a restart to get going. Some designs – the KEF and Q Acoustics – need the Google Home app installing. This done, the manufacturer's app is started and setup completed.

When all network and setup issues are sorted, a Western Digital NAS drive with hi-res music is used as a benchmark and all streaming is done via Qobuz and Tidal, either via the manufacturer's app or Roon. Where possible, the speakers are placed on Atacama SE24 speaker stands and carefully positioned in the listening room as per a conventional pair of standmounts. Where possible, line-level and digital inputs are also auditioned.

TEST MUSIC

RUSH
Vital Signs
Moving Pictures

MANIX
Rave Fantasy
Living in the Past

DONNY HATHAWAY
Little Ghetto Boy
Live

BEETHOVEN
Allegro ma non troppo
Symphony No.6 'Pastoral'

REFERENCE SYSTEM

CD TRANSPORT:
Cyrus CD Xt Signature **£1,900** ***HFC* 386**

This stalwart high-end transport is used to assess the digital inputs fitted to a number of the speaker packages. This is one of the finest silver-disc transports currently on sale and demonstrates that some of these systems sound their best via a direct, wired digital link.

DAC:
Chord Electronics Qutest **£1,250** ***HFC* 436**

What better way of testing the analogue line inputs than with this class-leading 'affordable audiophile' DAC? This British brand has dominated the digital-to-analogue converter market at all levels from budget to high end and the crisply styled Qutest shows why. It has a very clean, musically engaging sound that's never not fun to listen to.

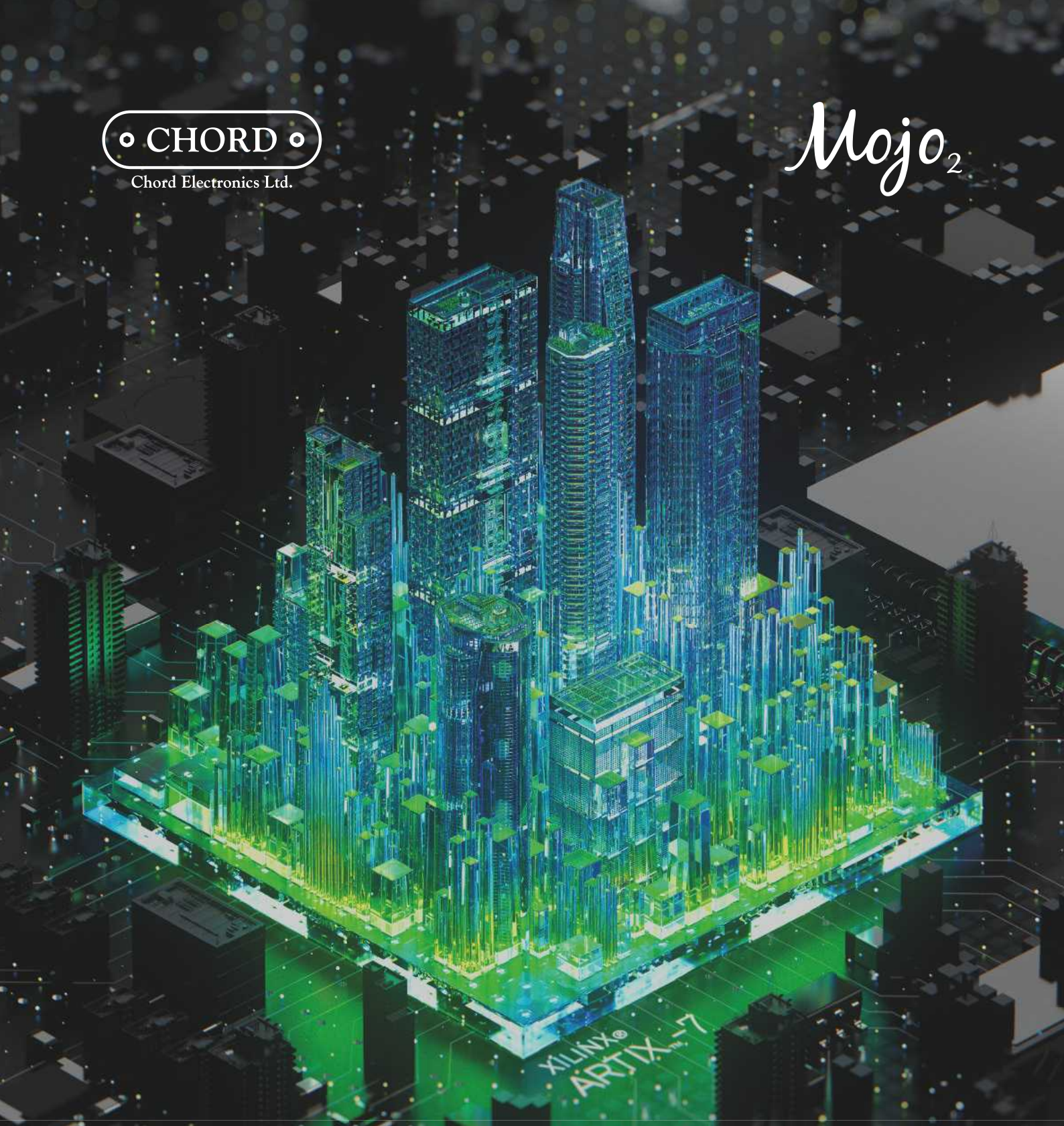
NAS DRIVE:
Western Digital WD 4TB My Cloud EX2 Ultra **£270**

All of the speakers can play music from network-attached storage devices (NAS drives) such as this. This well-made and popular model gives a big bang for your buck. It's easy to use and its 4 terabytes of storage should be more than enough for most music libraries.

CHORD

Chord Electronics Ltd.

Mojo 2



TOWERING ABOVE

Mojo 2's unique digital architecture towers above ordinary chip-DACs. With uniquely powerful processing, the world's first 'UHD DSP', plus class-leading technical performance, Mojo 2 is a landmark product in the audio landscape.

chordelectronics.co.uk

Made in BRITAIN

Grouptest

WIRELESS LOUDSPEAKERS £1,450-£4,000

Look, no wires!

Nick Tate ditches the cables as he puts six of the best premium wireless loudspeakers through their paces

IT'S OFTEN SAID that there are no great technological advances these days. Think back to the Eighties for example, when both CD and DAT music formats were launched and microcomputers were exponentially faster and more powerful at the end of the decade than they were at the beginning.

Instead, now we seem to be getting small, incremental improvements as consumer technology gets faster and more powerful. While this change isn't necessarily as eye catching, from time to time you suddenly realise that things that weren't really possible 10 years ago, now are. One such example is wireless loudspeakers.

Of course, these existed a decade ago, but were far more crude; the sound was poor and the operation glitchy. It's only in the past couple of years that wireless speakers have become really decent sounding, affordable and reliable. They're all app-controlled now and have clever, relatively painless setup. Best of all is that some actually sound quite respectable even to fussy audiophile ears. That was just a pipe dream a decade ago.

This roundup explores the potential of the breed; all six have a basic level of functionality and quality that makes them worthy of consideration for those looking for decent sound in relatively small spaces. Some, as you'll see, go quite a lot further. Each one has its own slightly different take on the 'wireless' theme and analogue connectivity (two even have phono stages built-in).

Even though not all are complete, unalloyed successes, there's a sense that this is the shape of things to come. They won't replace conventional wired hi-fi speakers for a while – if ever – but expect to see wireless speakers increasingly encroach upon the speaker market. With fewer wires (they still need mains cables, of course) and easy control via apps, many people unwilling to commit to a proper separates system may soon find themselves using these. ▶

ON TEST

Bowers & Wilkins Formation Duo £4,000 p36
B&W started going 'off piste' in 2007, with the launch of its Zeppelin iPod dock. This premium wireless speaker system is its latest such 'lifestyle' product and uses tech trickled down from its high-end hi-fi designs.

Cabasse Pearl Akoya £2,950 p38
Quintessentially French, this system comprises two beautifully detailed spherical units that look like nothing else around. Under the skin, much serious audiophile engineering is apparent. They might look quirky, but the sound is surprisingly good.

KEF LS50 Wireless II £2,500 p40
This iconic speaker brand made history with this product's predecessor. For many people, it was the first serious, decent such design that was good enough to be called 'hi-fi'. The mkII brings a host of improvements.

Klipsch The Fives McLaren Edition £1,350 p42
This Bluetooth-only speaker is based on the sub-£1,000 standard issue version, but gets snazzy McLaren racing livery and subtle tweaks to improve its sound, plus full app control. This makeover will beguile F1 fans.

Naim Mu-so 2nd Generation £1,450 p44
The original Mu-so was an intriguing departure for this British specialist hi-fi brand, and this builds on its success. The odd one out in the group, for those seeking a one-box high-tech music system, nothing else comes close.

Q Acoustics Q Active 200 £1,500 p47
Arguably the most technologically advanced system here, this subtle but anonymous-looking affordable package boasts high-tech BMR drivers that propagate sound differently to standard transducers. But that's not the only surprise...

Bowers & Wilkins Formation Duo £4,000

Hi-Fi Choice RECOMMENDED

Since entering into the active realm in 2007, B&W has shown it's got the goods when it comes to wireless

DETAILS

PRODUCT
Bowers & Wilkins Formation Duo

ORIGIN
UK/China

TYPE
2-way infinite baffle design

WEIGHT
10.6kg

DIMENSIONS
(WxHxD)
197 x 395 x 305mm

FEATURES
- 25mm dome tweeter; 165mm mid/bass driver
- Ethernet; Bluetooth
- Claimed power handling: 2x 125W RMS

DISTRIBUTOR
Bowers & Wilkins

Although passive speakers make up about 80 percent of B&W's business, there's no doubt that it places much importance on its newer concepts such as the Formation Duo. Effectively the company's best wireless offering, it's a platform upon which future products may be based.

Two aspects are key to this design: first, the drivers and cabinets use trickle-down technology from B&W's high-end passive speakers. Second, it runs the company's own wireless transmission protocol, based on a mesh network – where everything on the network dynamically chooses the optimal path to route audio data.

Each sealed cabinet is made from Formi, Bowers & Wilkins' name for its damped polypropylene/wood fibre composite. Inside is matrix bracing and two 125W Class D power amplifiers. These drive a B&W carbon dome tweeter and Continuum mid/bass unit. The speaker cabinet feels quite dead if you knock it with your knuckle.

Each speaker needs its own mains lead, but that's it; they automatically synchronise with one another. Setup is straightforward with B&W's Formation app and there's an Ethernet port for a wired connection. The optional Formation Audio hub (£650) expands the inputs to optical digital and RCA phono. Three buttons offer manual volume up/down, play/pause and input selection. Optional matching speaker stands (£750) are also available. The overall finish is extremely good, as you'd expect at this price. With the possible exception of the Cabasse, this is by far the slickest design in the group.

Sound quality

This speaker system is undeniably expensive, and sounds it. Wireless speaker systems have got a bad reputation largely based on past products, but this should convince any doubters. In short, it sounds like a good mid-level hi-fi standmount roughly equivalent to a B&W 700 series, give or take a little.

Rush's *Vital Signs* shows it to be crisp, punchy, detailed and dynamic. It's a sinewy classic rock song that needs the replay system to preserve the music's original super-tight rhythms, and the Formation Duo does just this. Instruments from guitars to snare drums start and stop very quickly, while singer Geddy Lee's vocal phrasing is also carried with convincing clarity.

It's good at the frequency extremes too; bass is the snappiest and grippiest in the group and treble has a convincing metallic sheen when reproducing hi-hat cymbals. At the same time, this system's midband proves impressively detailed, without sounding too forensic. In terms of musical enjoyment it's on another level to all other speakers on test, with the exception of perhaps the Cabasse and Q Acoustics, which also get the feet tapping.

Overall the B&W is an excellent wireless powered speaker that's hard to beat

Beethoven's *Pastoral Symphony* sounds great, with a crisp, tidy and open stereo image and a fair degree of depth. Here it can't quite match the Cabasse for its 'out-of-the-box' soundstaging, but it comes close and doesn't quite have the depth of the Q Acoustics. I am most impressed by the B&W's tonality, though; it's smooth yet has a convincing texture to orchestral instruments. It is much less opaque than the KEF, for example or the Klipsch and Naim for that matter. Indeed, the Formation Duo works very well across a wide selection of music and sources; it's a great all-rounder with plenty of power and poise under pressure. Overall, it's an excellent wireless powered speaker that's hard to beat ● ▶

Hi-Fi Choice OUR VERDICT

SOUND QUALITY	★★★★★
VALUE FOR MONEY	★★★★☆
BUILD QUALITY	★★★★★
FEATURES	★★★★★
OVERALL	★★★★★

LIKE: Class-leading sound; design

DISLIKE: Price; poor connectivity without Formation Audio hub

WE SAY: The best wireless speaker on sale?

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Cabasse
Pearl Akoya £2,950

Hi-Fi Choice RECOMMENDED

If Gerry Anderson made loudspeakers, this would surely be his choice of in-spaceship entertainment

DETAILS

PRODUCT
Cabasse
Pearl Akoya

ORIGIN
France/China

TYPE
2-way bass reflex design

WEIGHT
6kg

DIMENSIONS
(WxHxD)
220 x 220 x 220mm

FEATURES
- 130mm tweeter/mid driver, 170mm bass driver
- RCA analogue; optical digital; Ethernet; USB; Bluetooth
- Claimed power handling: 1,050W (total)

DISTRIBUTOR
Henley Audio Ltd.

Easily the most striking design here, this has a retro-futuristic sense of glamour to it. Cabasse would argue that form follows function; the boxy fibreboard cabinets of its rivals are far from ideal sonically, of course. However, the compact size of the Pearl Akoya means there's not a lot of internal cabinet volume to play with, and that creates other limitations. Unusually, this speaker is sold as a single item, so you need to buy a pair for stereo and then sync them using the app.

This proves easier said than done, as first time round both speakers struggle to find my wi-fi network. After powering everything down and starting again, we're in business. The Cabasse StreamCONTROL app is nice enough to use, and works with your chosen streaming service. If you use Bubble UPnP, you'll only get one speaker as the Pearls don't natively link together.

Set-up quirks aside, this is impressive. The spherical speaker enclosure is made from lacquer-coated resin and fibre, and is very solid. The coaxial tweeter and mid driver sit at the front, with a bass driver at the rear. The sparkle black finish looks classy, and the cloth-covered power leads are nice. Each speaker comes with a neat hockey puck-style remote that looks like a Nest thermostat, with a bezel around the outside to control volume.

Connectivity isn't the best here, but will still be enough for most people. In addition to wi-fi and Bluetooth, you get rear-mounted Ethernet, micro USB and analogue inputs; there's no HDMI. Overall these speakers look and feel expensive and exotic enough to (just about) justify their price.

Sound quality

As soon as you get over the visual novelty of this speaker pair, you begin to realise that it's actually very accomplished at what it's designed to do. Some of the less expensive designs in this group need to have allowances made for them, whereas pretty much any audiophile could listen to the Pearl Akoya and be happy with what they hear. It gives a detailed, crisp and refined sound – one that's better than you'd expect from a pair of small spherical objects that look like this.

Rush's *Vital Signs* is always a good test of any music system; it's a little forward and has lots of subtle detail that's often obscured by inferior replay equipment. Yet this Cabasse duo carries it in an engaging and enjoyable way. Tonally it's a little dry perhaps, lacking the warmth and depth of the B&W and Q Acoustics packages, and it doesn't have the low down grunt of the KEF either. Yet the midband is one of the most open of the group, and that translates to fine vocal handling, and a lovely textured guitar sound.

Any audiophile could listen to this and be happy with what they hear

The fun continues with the old-school techno of Manix; this speaker pair sounding super snappy and rhythmically very engaging with *Rave Fantasy*. This track is all about mood and beat, and the Cabasse manages to get a grip on both. It has super-fast attack transients on notes, and the decay is quick too, so you don't get a laboured, slurred sound. Despite this finely etched character, things never get tonally harsh.

The cleaner, smoother soul of Donny Hathaway's *Little Ghetto Boy* is also well carried. I really enjoy its expansive soundstaging, although the treble lacks a little sparkle and the bass a bit of oomph; some will want to use a subwoofer. As wireless speakers go, however, this is one of the most accomplished designs around – and doesn't exactly give its rivals an easy life ●

Hi-Fi Choice OUR VERDICT

SOUND QUALITY	★★★★★
VALUE FOR MONEY	★★★★☆
BUILD QUALITY	★★★★★
FEATURES	★★★★☆
OVERALL	★★★★★

LIKE: Crisp, expansive sound; multi-form

DISLIKE: Distinct lack of low bass

WE SAY: Superlative space-age stereo

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KEF
LS50 Wireless II £2,500

The original caused a sensation back in 2016, can this latest update continue the good work?

DETAILS

PRODUCT
KEF LS50 Wireless II

ORIGIN
UK/China

TYPE
2-way bass reflex design

WEIGHT
20.1kg

DIMENSIONS
(WxHxD)
200 x 305 x 311mm

FEATURES
- 25mm dome tweeter; 130mm mid/bass driver
- 3.5mm analogue; optical digital; coaxial digital; Ethernet; HDMI eARC; USB-A; Bluetooth
- Claimed power handling: 2x 380W RMS

DISTRIBUTOR
KEF

Coming five or so years later than the original LS50, KEF's replacement adds extra functionality and has untethered the two speakers and updated the electronics. It's still one of the most attractive designs here.

It naturally has an app which is swish and easy to use, but before you fire it up you'll need to load Google Home for initial setup. After that you can unlock its group-leading connectivity; it has a wealth of inputs including HDMI, optical digital, analogue and Ethernet. The system comes as a master and a slave, with the former having a neat illuminated control panel. It is less responsive than some touch-sensitive systems, though; our review sample needs a slight finger prod to work.

Each speaker has a single mains cable; it then syncs with the other so there's no need for any umbilical cord, unlike the Klipsch. The cabinets are very well finished and feel substantial, and the chunky metal heatsinking at the back is a nice touch.

As per the original LS50, it has a single Uni-Q drive unit with the tweeter inset and coaxially mounted. It sports the company's latest Metamaterial Absorption Technology (MAT), said to reduce distortion, and is driven by a 100W Class AB power amp, with the mid/bass getting 280W of Class D from another.

The powerful DSP system accepts up to 24-bit/384kHz files, but works at 24-bit/96kHz, unless you connect the two speakers up with the supplied Ethernet cable, in which case it goes up to 24-bit/192kHz. It also adds up to DSD256 and MQA decoding, making this system the most advanced here. Build is excellent.

Sound quality

The LS50 Wireless II has a sound of its very own. Highlights include a strong, gutsy bass and an expansive midband with fine stereo imaging. It's a clear step up from the less expensive designs here, with an almost separates hi-fi-like scale. It's also a very couth-sounding speaker system, reminding me that the Klipsch is the hooligan here in sonic terms.

Indeed, it does particularly well with classical music, making the Beethoven piece enjoyably expansive. Its powerful bass is able to convey the full weight of the orchestra far better than any other offering, although the B&W and Q Acoustics come close. The Uni-Q drivers really help to propagate the sound around, although can't quite match the Q Acoustics' BMRs. All the same, for anyone coming from a soundbar or similar, this system will seem spectacular in comparison.

With rock music, the KEF lacks a bit of bite. Treble is just a touch subdued, and this strips *Vital Signs* by Rush of some impact and atmosphere. Neil

Comfortably the most advanced and best-connected speaker in the group

Peart's glistening cymbals are much better conveyed by the Klipsch, Q Acoustics and B&W than by the KEF. There's no denying the smoothness and professionalism of this system's handling of the Rush track, however, it's just that it isn't quite as much fun and seems to get less comfortable the more complex the mix becomes. Tweaking the app's EQ settings doesn't help much, either.

Rhythmically it's decent, but not quite up there with most of the other speakers in the group. The pumping techno of Manix seems a little too constrained; it lacks the bite of others and doesn't really make best use of its obvious power and heft. That said, it does wake up a bit at higher volumes and stays commendably clean when extended. Overall, it's a class act with great build, connectivity and design, but treads a quite conservative path sonically ●

HI-FI Choice

OUR VERDICT

SOUND QUALITY ★★★★½
VALUE FOR MONEY ★★★★½
BUILD QUALITY ★★★★★
FEATURES ★★★★★
OVERALL ★★★★½

LIKE: Design; decent connectivity; punchy sound

DISLIKE: Lacks decent treble extension

WE SAY: Swish, suave and state of the art

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Klipsch
The Fives McLaren Edition £1,350

The original Fives were decent enough, if lacking a little glamour. Enter McLaren to change that...

DETAILS

PRODUCT
Klipsch The Fives McLaren Edition

ORIGIN
USA/China

TYPE
2-way reflex loaded design

WEIGHT
Active: 5.35kg
Passive: 4.85kg

DIMENSIONS
(WxHxD)
165 x 305 x 235mm

FEATURES
- 25mm titanium dome tweeter; 114mm carbon fibre mid/bass driver
- 3.5mm (line or MM); optical digital; USB; Bluetooth
- Claimed power handling: 160W RMS (total)

DISTRIBUTOR
Henley Audio Ltd.

Given a much-needed spruce up, the new McLaren Edition of the Fives gets the iconic F1 team's matte black and papaya colour scheme on the tweeter domes and control panel. Also, the braided mains power cable and umbilical lead that connect one speaker to the other now have orangey flecks. There's even a 'stability pad' on the underside of the speakers, which is a piece of rubber patterned to look like a tyre!

The changes aren't just cosmetic, as the mid/bass driver gets a new carbon fibre cone and the Klipsch Connect app is now fully up and running. It gives you an assortment of sound tweaking options, including tone controls and (the optional) subwoofer level. I prefer to carry out testing with the settings left flat, but then again I am able to place them properly on decent stands, 20cm out from the boundary wall.

This is a two-way design with a horn-loaded – as you'd expect from Klipsch – titanium dome tweeter, and the mid/bass unit below. The cabinet is reflex ported and that means the rear panel of the 'primary' speaker is quite crowded. Only one mains lead is needed and this powers the primary, with the umbilical lead running to the secondary speaker. For some this tether will be a major downside – as will the lack of UPnP streaming; this system is only 'wireless' in the sense that it offers Bluetooth connectivity. That said, it does offer a moving-magnet phono input, which will be a boon to some. Build is decent, but far from the best in the group.

Sound quality

Klipsch by name, Klipsch by nature! If you're a fan of this charismatic speaker brand, then you'll definitely get the distinctive sound of The Fives, and quite possibly love it. Yet many aren't and won't, because it's more on the 'Marmite' side than most here. In short, it's punchy, thumpy, feisty and fun – but wins no prizes for evenness, integration, subtlety or detail. Think of it as the audio equivalent of a young terrier dog, tearing up a rag doll with its teeth!

Tonally, the Klipsch is – shall we say – a bit wayward. The vocals on Rush's *Limelight* are a little lumpy, with Geddy Lee's high voice sounding too forward, yet there is also a slightly nasal tone to them. At the same time, hi-hat cymbals are a tad coarse. Down in the bass, this speaker system has limited punch due to its size, but it sure makes the most of what is there. Bass is propulsive and enormous fun, and overall things sound more engaging than some of the other contenders in this test.

The best sound I get from the Klipsch is via its optical line in, from a CD transport. This way, the Manix track is a lot crisper than via Bluetooth and really plays to this speaker's strengths. It may be tonally a bit rough, but it times very well; rhythms are carried with precision. It makes light work of *Rave Fantasy*, serving up an infectious beat. The Fives go surprisingly loud too, considering their modest size, and they don't complain when pushed a little harder. Again, it's only at really high levels that the B&W, Cabasse, KEF and Q Acoustics packages show up the Klipsch.

In short, the Fives are punchy, thumpy, feisty and fun – like a terrier with its toy

Little Ghetto Boy is a spacious sounding soul track and this system does a fair job of conveying this. It can throw out a decently big sound into the room, but again isn't quite in the top tier. Overall then, this racy Klipsch package punches above its weight in some ways, but doesn't quite have the strength in depth to claim pole position in qualifying ●

HI-FI Choice OUR VERDICT

SOUND QUALITY ★★★½☆
VALUE FOR MONEY ★★★★☆
BUILD QUALITY ★★★★☆
FEATURES ★★★★☆
OVERALL ★★★½☆

LIKE: Fun sound partners cool looks
DISLIKE: No UPnP; tether; price
WE SAY: A party animal in race overalls

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Hi-Fi Choice RECOMMENDED

Hi-Fi Choice GROUPTEST WINNER

Naim Mu-so 2nd Generation £1,450

The soundbar on steroids returns in its mark two guise, but can it make the updates count where it matters?

DETAILS

PRODUCT
Naim Mu-so 2nd Generation

ORIGIN
UK/China

TYPE
3-way bass reflex design

WEIGHT
11.2kg

DIMENSIONS
(WxHxD)
628 x 122 x 264mm

FEATURES
- 2x dome tweeters; 2x mid drivers; 2x bass drivers
- 1x 3.5mm analogue input; optical digital; USB; Ethernet; HDMI; Bluetooth
- Claimed power handling: 450W (6x 75W RMS)

DISTRIBUTOR
Naim Audio

When released a good few years ago the first Mu-so was quite a catch. Here was a highly respected UK hi-fi specialist getting into more lifestyle-oriented audio. It proved a big success and has been further improved with the more recent release of the 2nd Generation update.

It is a veritable thing of beauty, and an ergonomic triumph to boot. Naim's trademark volume control is a lovely way to operate it and the supplied app is as good as these things tend to get – easily the best in this group. It has no display as such, but doesn't need one.

The user experience is minimalist, uncluttered and effortless. This goes for setup too; you just follow the instructions on the app and after a few minutes, it's up and running. It has excellent connectivity and the list of formats it plays is as long as your arm. It can even be sync'd for multi-room use. It works with all major streaming services, and the Naim Radio functionality is great. Smart home integration is built-in, so you can use Siri or Google Assistant to play your music.

Build quality is about as good as you'll get for a product such as this. Its casework is largely anodised aluminium with matching heatsinks to the rear. The speakers sit at the front behind the grille, which comes in a choice of Olive, Peacock and Terracotta finishes. It's a three-way design, with six Focal-designed speakers and a 75W RMS amplifier powering each driver; this follows some serious number crunching via DSP to optimise things first. So, there's nothing to fault from a user point of view, aside from the rise in price from the original.

Sound quality

This is the only one-box system in the group, so naturally it needs to be assessed in this context. Suffice to say that it's the best sounding two-channel soundbar-type product that I've ever heard. It's clean, punchy and refined, and projects music way better than you'd expect from something with this form factor. For example, Rush's *Limelight* comes over as surprisingly detailed, despite it being the sort of recording that really needs a forensic-sounding hi-fi to get the best from it. The Naim really has a go, and pushes out a sound that doesn't seem quite as compressed as it should do, considering its decidedly diminutive dimensions.

It makes a fair fist of the Manix techno track too; this has a big, chugging bassline and obviously the Mu-so's compact speakers struggle to fully carry it – yet what there is, is enjoyably fluid and full of life. Also, there is no sense that it's getting overwhelmed at higher volumes when pretty much every other compact one-box audio player would give up and die. Nor do those big bass transients swamp what is simultaneously going on further up the frequency range.

Of course, you've got to make allowances for its form factor, but I am a little underwhelmed by the treble – which is one area where size shouldn't matter so much. It isn't bad, but rather lacks sparkle and extension; others in the group do better here; especially the B&W, Q Acoustics and Klipsch. The latter is less refined, but has more drive to the hi-hats on *Rave Fantasy*. Nor is its soundstaging great by group standards; of course, this is down to its design remit, but there is a closed-in feel to the Donny Hathaway track. Overall then, this box is stellar for use in places where you can't cram in two speakers – active or passive – but not quite a replacement for a full-sized hi-fi system ●

Naim's trademark volume control is lovely and the app is easily the best here

HI-FI Choice

OUR VERDICT

SOUND QUALITY ★★★½☆
VALUE FOR MONEY ★★★★☆
BUILD QUALITY ★★★★★
FEATURES ★★★★★
OVERALL ★★★★☆

LIKE: User experience; elegant design

DISLIKE: Limited sonically due to its size

WE SAY: State-of-the-art soundbar for where space is tight

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Q Acoustics
Q Active 200 £1,500

HI-FI Choice GROUPTEST WINNER

Employing BMRs instead of conventional moving coils, the Q is the most technologically advanced here

DETAILS

PRODUCT
Q Acoustics
Q Active 200

ORIGIN
UK/China

TYPE
2.5-way reflex loaded design

WEIGHT
7.5kg

DIMENSIONS
(WxHxD)
170 x 284 x 290mm

FEATURES
- 58mm BMR tweeter; 58mm mid/bass BMR; 114mm bass driver
- 1x pair RCA phono; Ethernet; optical digital; HDMI; sub; Bluetooth
- Claimed power handling: 2x 100W RMS

DISTRIBUTOR
Armour Home

Balanced Mode Radiators are not a gimmick; they're the result of decades of research and a spin-off from military research stretching back many decades. The technology was popularised by NXT, which has licensed BMRs for many applications. The benefits include a wide bandwidth and propagation of sound across the 180° plain; the drivers are way less directional than normal speakers.

Each Q Active 200 loudspeaker has two BMRs, each with its own DSP and amplifier channel. The upper one runs from 20kHz down to 5kHz; the lower only works up to 5kHz. A rear baffle-mounted driver takes care of low frequencies. Q Acoustics offers optional, stylish and expensive stands; conventional ones work well too. Class D amplifiers deliver a claimed 100W RMS per channel. Switchable bass compensation is fitted to the rear of each speaker.

Aside from the B&W, this is the only system to feature a break-out box – although this one comes bundled – which brings great connectivity. It's the only one here to have proper analogue RCA phono inputs too, which can be switched between line-level and the built-in phono stage. Ethernet, optical and HDMI are also here, plus a sub out. Each speaker needs its own power supply, as does the box, but there's no physical tether.

Setup is first done via the Google Home app. The Q Active app then adds various features, but not streaming – for that you'll need Bubble UPnP or similar. The touch controls are handy, but like the KEF's are a little slow to act. There's a supplied remote, plus voice control via Google Chromecast and Amazon Alexa.

Sound quality

This system comes very close to being the best sounding here, despite being much cheaper than some. It gives a very 'hi-fi-like' listening experience, with a tonally neutral, well-balanced, smooth sound that audiophiles will appreciate, yet isn't boring in the least to hear. It also has excellent stereo imaging and decent bass weight, making it ideal for all types of music.

Beethoven's *Pastoral Symphony* sounds lovely – open, expansive, atmospheric and three dimensional, with a nice tone to strings and brass and lots of inner detail. At the same time, the music flows well and doesn't fall to pieces on dynamic crescendos. The speakers have the classic, slightly laid-back sound of speakers with BMR drivers – akin to electrostatics, in my opinion – because they lack the rough edges of conventional drivers. But once you're used to this, you can enjoy the system's 'strength in depth'; it just does so much right.

Although much of the listening is streamed or via the NAS, the sound is

It has a 'hi-fi-like' sound that's tonally neutral, smooth and well balanced

even better if you use the direct digital input. The techno of *Rave Fantasy* by Manix reveals that this speaker is capable of great things in terms of accuracy, speed and grip; the Q Active 200 really pushes out lots of sound all around in a spookily non-directional way. Rush's *Vital Signs* via Qobuz is excellent too, with smooth but insightful treble, loads of midband detail and a crisp, tuneful bass. Only the much pricier B&W betters it in this respect.

There is a big difference between the Bluetooth input and UPnP; lesser speakers in this group tend to mask the fact that the former is, in sonic terms, very much the poor relation. Not here, though, as Donny Hathaway's *Little Ghetto Boy* is much more open and expansive via the latter input than it is via the former. Overall, this is superb at the price and a truly nice surprise ●

HI-FI Choice

OUR VERDICT

SOUND QUALITY ★★★★★
VALUE FOR MONEY ★★★★★
BUILD QUALITY ★★★★½
FEATURES ★★★★★
OVERALL ★★★★★

LIKE: Great sonics; design; connectivity

DISLIKE: Nothing at the price

WE SAY: Surprisingly super-sounding sonics

AUTOMAT

FOR THE PEOPLE

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Group test verdict

After countless hours of comparisons, ***Nick Tate*** thrashes out the final ranking order and finds a worthy wireless winner

SOMETIMES IT'S HARD to come up with a clear pecking order in a *Group Test*, at others it's easy. In this case it's the latter as these speakers differ in their ability and value.

In sixth place is Klipsch's The Fives McLaren Edition; it's a nice enough product but the go-faster racing stripes don't add enough to justify the price. The plain non-McLaren version is way better value. The system itself is feisty and fun to listen to, but its lack of UPnP functionality holds it back.

In fifth place is Naim's Mu-so 2nd Generation. It's probably best to think of it as 'the world's greatest soundbar'. It is brilliant at doing what it's designed for, which is to give a super-slick access point for music in a small room, our only grump is that it's getting a bit expensive.

KEF's LS50 Wireless II comes fourth. Again, it is pricier than its predecessor and while better, struggles to offer good value considering the quality of some of the competition. On its own it's a lovely package that is slick and powerful, but others do more for less.

Third is the Pearl Akoya by Cabasse. It's expensive, but sounds and looks it. If you're seeking something that's not your average run of the mill box, think about a pair of these. They are very well made and cleverly engineered, and many will love the quirky French design, too.

In second place is B&W's Formation Duo. This is the best sounding system here by some way, and the most versatile in terms of multi-room and connectivity if you buy the optional hub. It's the only package here that you can truly sit back and enjoy without feeling it's 'not bad for a wireless system'. It is real hi-fi, that happens to be built a different way. But it's very expensive, unlike the winner…

WINNER

A brave and radical design, Q Acoustics Q Active 200 implements BMR technology to give a great-sounding yet relatively affordable system. It's hard to fault in any way – everything from its connectivity to ease of setup and use is super, and it sounds second only to the B&W.

Make/model	Bowers & Wilkins Formation Duo	Cabasse Pearl Akoya	KEF LS50 Wireless II	Klipsch The Fives McLaren Ed.	Naim Mu-so 2nd Generation	Q Acoustics Q Active 200
Price	£4,000	£2,950	£2,500	£1,350	£1,450	£1,500
Sound	★★★★★	★★★★★	★★★★☆	★★★½☆	★★★★½	★★★★★
Value	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★½	★★★★★
Build	★★★★★	★★★★★	★★★★★	★★★★☆	★★★★½	★★★★½
Features	★★★★★	★★★★☆	★★★★★	★★★★☆	★★★★½	★★★★★
Overall	★★★★★	★★★★★	★★★★☆	★★★½☆	★★★★½	★★★★★
	The best-sounding speaker system here by a fair way, it's also the most expensive	French styling meets clever engineering to create a great sounding package	High-tech system, great connectivity and functionality; decent sound too	Feisty and fun, with added racing stripes. Sonically off the pace in this group, though	The king of one-box systems oozes class, but is no sonic match for regular designs	Inspired, high-tech design, stellar sound for the money and great functionality
Website	bowerswilkins.com	cabasse.com	kef.com	klipsch.com	naimaudio.com	qacoustics.co.uk

Key features

BMR	No	No	No	No	No	Yes
Hub	No	No	No	No	No	Yes
MM phono	No	No	No	Yes	No	Yes
UPnP	Yes	Yes	Yes	No	Yes	Yes
Class	D	AB	ABD	D	D	D
MQA	No	No	Yes	No	No	No

TRY WITH THESE

CD PLAYER:
Cambridge Audio CXC **£400** ***HFC* 401**

Most of the systems here have digital inputs, so a great way of playing 'legacy' media is a CD transport. The neat-looking CXC is the cheapest high-quality silver-disc spinner we know, and cracking value too.

TURNTABLE:
Rega Planar 2 **£475** ***HFC* 413**

This is the latest in a long line of brilliant budget Rega turntables and comes with a decent Rega Carbon MM cartridge pre-installed. It's even good enough to work with the B&W Formation Duo, via the optional hub and a phono stage.

MUSIC SOFTWARE:
Roon **From $9.99** ***HFC* 448**

Roon's a smart interface designed to make streamed music far easier to organise and access. It gives a truly immersive and luxurious user experience – it's expensive, but hard not to live with once you've tried it.

roon

Hi-Fi Choice RECOMMENDED

Take it to the store

Melco has updated its high-end two-box flagship with enhancements debuted in the limited-edition N10 anniversary edition

When it comes to its digital music libraries there are two distinct varieties that Melco offers. There's the conventionally sized, 430mm-wide N1 models and the half-width (or to put it another way 215mm-wide) N10. As you'll no doubt have gathered from the name, the new N10/2 models – starting at £7,000 for the N10/2-H50 and rising to £9,000 for the N10/2-S38 flagship – that we have here hail from the latter. Why the two prices we hear you ask? In a word, storage: the N10/2-H50 packs 5TB of conventional hard-disk drive (HDD), while the N10/2-S38 includes 3.84TB of solid-state (SSD).

As you might expect, given Melco's roots in Japanese computer company Buffalo, the new drives are of a dedicated design, optimised for the kind of 'write once/read many times' work that's involved in a music library system, and as Melco explains: "hand-picked by the factory to provide exceptional audio performance". The HDD-equipped N10/2 replaces the original N10 model, while the SSD-based drive, reviewed here, takes over from the now-discontinued flagship N1Z/2EX.

In addition to those new drives, the N10/2 series receives a new mainboard that was originally developed for the company's 45th anniversary limited-edition version of the N10. Details of that new board are sketchy, but in common with past Melco designs, the circuitry is built for "extremely low-noise, high-precision digital music dataflow" and is custom-built, the company famously pointing out it swerves the sort of conventional standard IT components or PC parts that don't play so nicely with music files.

Either way, the architecture is built around a powerful Marvell Armada CPU with some 16GB of DDR RAM, while the Melco-branded storage is isolated on a compliant suspension to keep external vibration at bay.

The cable is short; the two boxes must be stacked or used side-by-side

As with previous Melco N10s, the N10/2 is a two-box design, with all the player hardware in one enclosure, while a separate power supply box – designated the PS10 – is home to the substantial toroidal transformer, storage capacitors and regulation. The latter feeds the 'head unit' with 12V and 5V power via a 5-pin umbilical cable. As in the past, this cable is relatively short, mandating that the two boxes are either stacked or used side-by-side: the thick aluminium casework is considered sufficient for mutual shielding.

DETAILS

PRODUCT
Melco N10/2-S38

ORIGIN
Japan

TYPE
Network-attached media storage device

WEIGHT
8.5kg

DIMENSIONS
(WxHxD)
215 x 61 x 269mm

FEATURES
- 3.84TB sold-state hard drive
- USB and Ethernet inputs
- USB and Ethernet outputs
- Roon ready

DISTRIBUTOR
Audiophile Digital Music Masters Ltd.

WEBSITE
melco-audio.com
audiophiledigital.co.uk

Much of what's on offer here will be familiar to existing Melco users, such as the separate Ethernet ports for connection to your network – for control, loading music and so on – and direct to a network player, without the need for a switch between the two. There are multiple USB ports too – one on the front, two on the rear – accommodating external storage, a CD ripper to copy discs onto the internal storage and the connection of external drives to function as backup for the N10/2's internal storage. Remember: no-one – absolutely no-one – should commit their entire music library to a single drive for fear of losing it should the unthinkable happen...

Meanwhile, one of the rear-panel USB ports is configured for direct connection to a USB DAC – this key provision being added to Melco players a good few years back. With said DAC connected, the N10/2 becomes a standalone player solution capable of handling music files up to 32-bit/384kHz and DSD512 – provided of course your DAC of choice can cope with those formats – which means that there's no need for a separate network music player. As well as playing music from its own storage and connected devices (either plugged in via USB or elsewhere on the home network), it can also access streaming services including Tidal, Qobuz and vTuner Internet radio via the Melco Music HD app.

Users may also download content direct to its storage with access to the Qobuz and Highresaudio.com online stores, without the need to download purchases to a computer and then transfer them to the player. And, of course, it's also Roon ready.

What's more, it's even possible to use the N10/2 as a source for a USB DAC without the network connection and then control it via a third-party UPnP/DLNA app. In the latest version of the company's firmware, Melco libraries can be tasked to play music using the front panel controls and display, 'pushing' digital audio data straight out of its USB port. It's admittedly a touch laborious compared with the ease that swiping and tapping of an app offers, but it can be done. Alternatively, you can even plug in a little USB Bluetooth 'dongle' and navigate the N10/2 via approved BT remote handsets.

A system designed entirely for listeners and lovers of music, not computer nerds

Much of the beauty of the Melco experience is down to the 'behind the scenes' development of the company's Intelligent Music Library suite, which combines MinimServer and SongKong music file management software to provide an attractive user interface with extensive, logical metadata tagging. All this happens without any user-intervention, making finding and playing music both simple and intuitive. Throw in the superb quality of the fit and finish of the two enclosures themselves and a resolutely non-computer-like user-interface, and this is clearly a system designed entirely for listeners and lovers of music rather than computer nerds.

So, yes, the Melco concept isn't cheap, especially in this flagship iteration, but there's a strong sense of all the hard work having been done for the listener in order to provide a seamless, simple means of accessing their music library.

Sound quality

Previous experience of using Melco players as a network source for, say, a Naim ND555/555PS player has taught us that it can be an excellent option, but with no real clear advantage over connecting a current NAS music library via inexpensive fibre optic converters. So, for the purposes of this test we decide to stick to using the N10/2 as a source for a selection of different USB DACs, including everything from the Matrix Audio X-Sabre 3 (p28) down to the relatively affordable iFi Audio Neo iDSD (*HFC* 482) and the peerless Chord Electronics Mojo 2 (p56), both of which have become mainstays of many a desktop setup.

Without wishing to in any way prejudge what follows, we find that even with the £800 iFi Audio and £450 Chord DACs, the N10/2 sounds spectacular. Yes, the combination of this £9,000 library and a £450 pocket-sized DAC, however unlikely it may seem, is a killer main-system setup! ▶

HOW IT COMPARES

Arguably, Japan's Melco brand was responsible for establishing the 'audiophile NAS' market in the first place, assisted in no small measure by its technological toe-hold in computer hardware design. Digital output-only music libraries now include the more affordable £1,500 Roon Nucleus+ (*HFC* 439), the £4,600 Auralic Aries G2.1 (*HFC* 469), plus the very high-end £9,495 MU1 from Grimm Audio and two-box £11,400 Statement from Innuos. All these solutions are certainly worth checking out if you are already wedded to your own choice of USB or AES-connected DAC.

IN SIGHT

1. USB input for hooking up an external CD drive for ripping
2. USB output for connection to an external DAC
3. Ethernet network connection
4. Ethernet port for dedicated streamer or network player
5. DC in/outputs. The outboard PSU (lower box) is coupled to the digital library (upper box) via an umbilical
6. AC mains input

The aluminium casework is perfectly sufficient for mutual shielding

Playing the gloriously detailed *Lamento* set by mezzo Marianne Beatte Kielland and baroque ensemble Oslo Circles, the Melco/Chord combination delivers a sound dripping with the ambience of the church recording venue. The soloist and period instruments are placed persuasively before the listener – it's a superbly immersive audio experience

Finding and playing your music via the Melco is both simple and intuitive

as remarkable for its mournfully mellifluous tonality as it is for the precision with which the music is revealed. The voice is simply luminous, hanging in space, while the delicate accompaniment fills out the soundstage with atmosphere.

Lifting the mood a little with pianist Jan Lisiecki's *Night Music* recital, that precise but atmospheric rendition perfectly suits the reading of Mozart's celebrated variations on *Ah, Vous Dirai-Je, Maman*. The crisp – and appropriately twinkling – playing benefitting greatly from the speed and definition, while both the weight of Lisiecki's instrument and way the lower octaves resonate in the lively acoustic are beautifully conveyed.

That resolution is just as apparent in the 24-bit/192kHz remaster of Eric Clapton's *461 Ocean Boulevard* album, when the Melco/Chord pairing slams into *Motherless Children* with all guns blazing before settling back into the lushness of *Give Me Strength* and the harmonies of *Let It Grow*. Arguably Clapton's finest solo work, it sounds magnificent via this unlikely combo, from the deep, funky bass of Carl Radle to Yvonne Elliman's silky vocals.

Melco's two-box N/10 also works supremely well with Matrix Audio's X-Sabre 3 DAC – though Chord's Mojo 2 is uncannily close in performance – when it comes to the big, dramatic stuff, such as the Bergen Philharmonic/Gardner recording of Britten's *Peter Grimes*. Here it crashes out all the fury of the famous *Storm* interlude without losing track of any of the instrumental textures, and at the same time movingly conveys the uneasy atmosphere of the fishing village and its outcast, culminating in its bleak, desolate finale.

The Melco is designed to be stacked or stood side by side

Conclusion

This recording is possessed of breathtaking dynamics and tiny nuances in equal measure, and this combination artfully reveals them all. It achieves the same with the skill of both scoring and recording in (deep breath) *Jeff Wayne's Musical Version Of The War Of The Worlds*, incredibly now knocking on the door of its 45th birthday, but still something of an unmatched sonic marvel, especially if you listen on SACD.

Even with Jeff Wayne's 2000 remixes album, *ULLAdubULLA*, which really cranks up the drama (and, of course, the bass!), the N/10 and whichever DAC you choose to partner it effortlessly deliver all the hefty weight and intricate detail one could ever want, creating an absolute riot of samples and thumping rhythms. This is a library that demands you're noisy ●

Hi-Fi Choice OUR VERDICT

SOUND QUALITY ★★★★★
VALUE FOR MONEY ★★★★☆
BUILD QUALITY ★★★★★
FEATURES ★★★★½

LIKE: Slick interface; clever metadata handling

DISLIKE: Price; limited storage capacity

WE SAY: Sophisticated digital front-end

OVERALL ★★★★½

- STORES NATIONWIDE
- DEMONSTRATION ROOMS
- EXPERT IMPARTIAL ADVICE
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EISA Award Best Product 2020-2021 SMART AMPLIFIER NAD Masters M33

NAD • M33 • BLUOS STREAMING AMPLIFIER

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naim

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WHAT HI-FI? AWARDS 2021 BEST STANDMOUNT SPEAKER £500-£750 Bowers & Wilkins 606 S2

Price excludes speaker stands

PMC • TWENTY5·23i

Discreet and elegant floorstanding speaker, perfect for filling medium-sized rooms with transparent, authentic dynamics and effortlessly extended bass. It will make the best of both affordable and high-end electronics and amplification.

£3995

FOCAL • KANTA NO.1

This bookshelf loudspeaker will discreetly blend into any unit or stand: it is the perfect solution for rooms under 270 ft2 (25 m²). Entirely dedicated to acoustic performance and with a resolutely personal aesthetic: that, in a nutshell, is the Kanta DNA!

£4999

Price excludes speaker stands

WHARFEDALE DIAMOND 12.3

With enhanced presence and power, the DIAMOND 12.3 is refined and the perfect, affordable floorstanding speaker for 2-channel hi-fi systems, or part of a seriously impressive home theatre system.

£499

WHAT HI-FI? AWARDS 2021 BEST FLOORSTANDING SPEAKER UNDER £500 Wharfedale Diamond 12.3

BOWERS & WILKINS 805 D4

The most compact model in the 800 Series Diamond™ range, but it's still packed with advanced technologies, including the Diamond dome tweeter and the Solid Body Tweeter-on-Top.

NEW **£7000**

Price excludes speaker stands

HI-FI Choice EDITOR'S CHOICE

Q ACOUSTICS • CONCEPT 30

The Concept 30 takes acoustic technology and design cues from the flagship Concept 300, while also introducing new audio innovations. The Concept 30 standmount delivers truly high-end home audio performance.

NEW **£899**

FOCAL • ARIA 906

This 2-way loudspeaker features Focal's exclusive Flax cone, characterised by its low coloration and natural sound, coupled with Focal's inverted dome TNF tweeter. Aria is available in Black high gloss and real wood walnut veneer finishes.

£899

KEF • LS50 META

The first loudspeaker to employ Metamaterial Absorption Technology. Once again demonstrating KEF's unrelenting passion for developing new technologies to improve your listening experience.

£1099

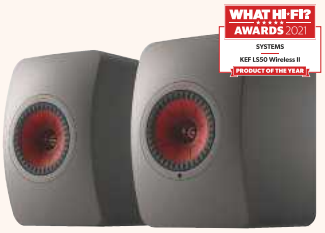
WHAT HI-FI? AWARDS 2021 BEST STANDMOUNT SPEAKER £750-£1500 KEF LS50 Meta

KEF

LS50 Wireless II

Wireless Speakers

£2499



WHAT HI-FI? AWARDS 2021 SYSTEMS KEF LS50 Wireless II PRODUCT OF THE YEAR

The result of three years intensive research and development, the new KEF LS50 Wireless II is a fully active wireless stereo speaker system that delivers pristine, KEF signature sound coupled with great usability and high-performance wireless capability.

naim

MU-SO Qb (2ND GEN)

Wireless Speaker

£899

WHAT HI-FI? AWARDS 2021 WIRELESS SPEAKERS Naim Mu-so Qb 2nd Generation PRODUCT OF THE YEAR

Mu-so Qb 2nd Generation features a totally new streaming platform, as seen in Naim's flagship network-connected products, to deliver the latest music streaming technology plus true hi-fi performance.

BLUESOUND

WHAT HI-FI? AWARDS 2021 MUSIC STREAMERS Bluesound Node (2021) PRODUCT OF THE YEAR

NEW

Bluesound is an award-winning wireless hi-res sound ecosystem that lets you play music in any and everyroom throughout your home.

NEW **NODE £549**
Hi-Res Wireless Music Streamer

NEW **POWERNODE £849**
Hi-Res Music Streamer / Amplifier

VAULT 2i £1199
Hi-Res Music Server / CD Ripper

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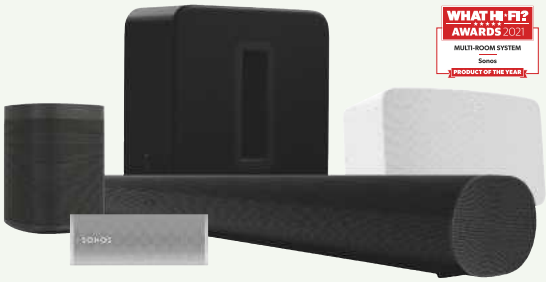

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Hi-Fi Choice EDITOR'S CHOICE

Joy revision

It's taken seven long years, but Chord has finally retired its phenomenal Mojo. ***David Vivian*** welcomes the sequel

Of all the quirky wordplays Chord Electronics has used in naming its products, Mojo – a portmanteau of 'mobile' and 'joy' – is undoubtedly the Qutest… sorry, cutest.

Launched in 2015, no one really knew if Chord's hunch that what the world really needed was a portable headphone amp/DAC that could channel 'studio quality' sound into the most demanding high-end headphones would catch on. Game changer is a term with a grand history of being bandied about in hi-fi circles, sometimes with little justification. But there can be no argument in attaching it to the Mojo which all but bewitched reviewers, sold like crazy and still has no sonic equal for the money.

Reflecting the thorough overhaul, the new Mojo – virtually the same dinky form factor, more coloured orbs (dinkier than before) – kicks off with some unique tech. Dubbed UHD DSP, it claims to be the world's first lossless digital signal processor, the upshot being able to EQ using 18 1dB steps of adjustment over four frequency bands – lower bass, mid/bass, lower treble, high treble – with no loss of resolution. In other words: that's flexible tonal customisation without qualitative consequences. Given the diversity of tonal characteristics between different headphone designs, this isn't just a novel inclusion but something of a godsend.

The proprietary tech's 'engine' is a 104-bit custom DSP core running at 705/768kHz supported by extensive internal noise shaping. Volume control has been improved, too, now split into two distinct ranges: low and high volume. And there's a new four-stage crossfeed function, also DSP based, that seeks to emulate a two-channel speaker soundstage for a more 'out-of-head' experience.

Mojo 2 is every bit as immaculately built and finished as the original

Technical consultant Rob Watts has upgraded his WTA (Watts Transient Aligned) filter, now with 40,960 taps using 40 DSP cores while a revised noise-shaper claims to offer greater depth and detail perception. Further putting the bite on distortion and out-of-band noise is an improved version of the 4e Pulse Array DAC and doing away with coupling capacitors is said to achieve greater neutrality.

DETAILS

PRODUCT
Chord Electronics Mojo 2

ORIGIN
UK

TYPE
Portable headphone amplifier/DAC

WEIGHT
185g

DIMENSIONS
(WxHxD)
83 x 23 x 62mm

FEATURES
- Digital inputs: coaxial; dual-data coaxial; optical; Micro-USB; USB-C
- Supports PCM to 768kHz and DSD256
- UHD DSP lossless EQ adjustment
- Compatibility with Poly streamer

DISTRIBUTOR
Chord Electronics

TELEPHONE
01622 721444

WEBSITE
chordelectronics.co.uk

Addressing battery life is a new FPGA-based charging system that doesn't just quicken the process but does so without heating up the Mojo 2 nearly so much as its predecessor in the process. Chord claims overall capacity has been boosted by nine percent and that the battery now lasts more than eight hours. The company has also modified the Mojo's Intelligent Desktop Mode, securely preventing the battery from overcharging when connected to the mains for any length of time.

In Spinal Tap fashion, connectivity is one better, the increasingly *de rigueur* USB-C input joining the existing optical, Micro USB and 3.5mm coaxial (capable of supporting sample rates up to 768kHz in the unlikely event you feel the need to partner the Mojo 2 with Chord's million-tap M-Scaler via a dual-data cable). The new USB socket sits just below the coax, necessitating a small lip on the underside of the chassis to accommodate it. A tad awkward maybe, but it's needed to ensure compatibility with Chord's Poly (*HFC* 431) streamer/server module. As with the original Mojo there are two 3.5mm headphone jacks while the control interface consists of Chord's polychromatic, polycarbonate orbs. These are smaller and fiddlier than before because of the need for a

The new USB-C port joins the existing optical, Micro USB and 3.5mm coaxial inputs

fourth assigned to menu duties, joining those controlling power on/off/sample rate and volume up/down. The light show routine is quite something to witness, but intuition doesn't count for much when faced with the multi-coloured protocols of the new menu orb so you'll need to keep the user manual handy – to begin with, at least.

Only fractionally longer than the original, Mojo 2 is just as immaculately built and finished, its bead-blasted aluminium casework finished with a pleasingly smooth and tactile black anodise. As before, it can be kept looking that way by keeping it in Chord's dedicated leather jacket accessory, a larger version of which houses Mojo 2/Poly, with the added benefit of keeping the two snugly locked together.

Sound quality

I remember Chord's Rob Watts telling me at the launch of the Poly that Mojo, despite its remarkable insight and temporal precision, had been voiced to sound warmer and more forgiving than Hugo and Hugo 2 (*HFC* 428) to spread the 'sweet spot' for a broader range of customers. I've little doubt this inviting balance contributed much to its appeal and success. Straight out of the box, the way Mojo 2 sounds – crisper, cleaner, cooler, more open and incisive – can therefore seem a little 'off message'. Truth is, the message has changed and, because of the new tech on board, it can afford to. A Mojo-like

Regardless of what it's paired with, Mojo 2 raises the high bar set by its predecessor

warmth is easy enough to achieve through judicious juggling of the EQ parameters, but it's teamed with notably greater transparency and soundstage real estate, putting clarity, detail, separation and imaging front of house. Arguably, a very satisfactory '…cake and eat it' result and practical showcase for UHD DSP's power.

Mojo 2's refreshed sonic skillset and versatility suggest pushing standards in multiple roles. I try it with an HP Pavilion laptop, Apple iPad Mini, Samsung S10+ smartphone and, of course, Chord's own Poly streamer running the latest V.3+ firmware. Headphones include Oppo's PM2 (*HFC* 402) wired planar magnetics and Sennheiser's wireless Momentum 3 (*HFC* 457). In each instance, Mojo 2 easily raises the high bar set by its predecessor. Finally, it takes the place of a Chord Hugo TT2 (*HFC* 468) DAC as part of a system comprising an Electrocompaniet ECI 80D (*HFC* 473) integrated amp and KEF R5 floorstander (*HFC* 460). No, not exactly a like-for-like substitute but only the sense of scale, bass power and dynamic freedom is diminished in a direct comparison, the rare talent for capturing the unvarnished core of 'performance' remaining undimmed. Quite a result considering the £3,546 price difference.

Yes, technically, Mojo 2 majors on resolution, solidity, transient accuracy, timing and imaging, yet whether listening wirelessly to a Tidal Master stream of Silk Sonic's latest single, *Love's Train* – via Poly and the Sennheiser Momentum – or to a fully-lit orchestral work like Stravinsky's *Rite Of Spring* on the large KEF floorstander in the main system, Mojo 2 beautifully gives overt analysis the swerve for a remarkably natural, musically lucid style of presentation, eschewing the manipulative emphasis favoured by some digital denizens for a believable sense of weighting, proportion and acoustic space.

Conclusion

In truth, Mojo 2 makes the brilliant original sound a little opaque, coloured and closed-in and that's remarkable enough. To listen to a superb recording like Eva Cassidy's *Songbird* with Mojo 2 is to experience complex textures, limpid transparency, strikingly believable stereo perspectives and previously unnoticed recorded details subtly unearthed. It is, more than ever, a mobile joy. Ignore it at your peril ●

HOW IT COMPARES

Given the world of portable headphone amp/DACs has yet to catch up with the original Mojo, it's hard to see how the opposition is in any shape to close the gap on Mojo 2. That said, iFi's stylish £400 xDSD – while not quite on level terms with Mojo 1 for sound quality – certainly has an extensive feature set, including MQA compatibility, and so represents an attractive option for Tidal users. It's also £50 cheaper than Mojo 2. For the ultimate portable headphone/DAC experience and standalone DAC duties, the Chord comfortably holds sway.

An extra glowing orb means you'll need to keep the manual handy

Hi-Fi Choice

OUR VERDICT

SOUND QUALITY ★★★★★

VALUE FOR MONEY ★★★★★

BUILD QUALITY ★★★★★

FEATURES ★★★★★

LIKE: Everything we loved about Mojo heightened; lossless tone control

DISLIKE: Quirky, fiddly ergonomics

WE SAY: A tech-dense miniature marvel quite simply without equal

OVERALL ★★★★★

Baffle stations

Hi-Fi Choice RECOMMENDED

Rogers has done the unthinkable – taken a deep breath and improved the iconic LS3/5A. ***David Vivian*** checks out the Special Edition

We could argue whether the Seventies was the greatest decade for music (it was), but to anyone serious about hi-fi it's also remembered for the launch of two components that would become British icons: the Linn Sondek LP12 turntable in 1972 and the BBC-designed LS3/5A compact near-field monitor in 1975. Both are still in production, both still revered across the planet, both visually all but indistinguishable from their 40-plus year-old progenitors. Yet the business sensibilities that have ensured their longevity could hardly be more different, and they are highly germane to this review.

Linn's approach has been a shining example of assiduous evolution over the years to the point where the sonic objectives of the latest Sondeks rolling out of its Glasgow factory are light years removed from the slightly fat and warm presentation that so ensnared audiophiles of the day. The LS3/5A was created by the BBC to fulfil a closed space, outside broadcast brief but quickly worshiped by certain factions of the audiophile community as a kind of standmount deity with magical powers of midband realism. In contrast, it has led a backward-looking existence sustained by myriad examples produced under licence to a theoretically immutable BBC spec by a handful of British speaker brands in both original 15ohm, later 11ohm and 15ohm guise once more – some having to use 'close enough' drivers after KEF stopped making the T27 tweeter and B110 mid/bass unit.

This Special Edition exists to be an LS3/5A in every way, only better

Only Falcon Acoustics, a long-established drive unit specialist founded by Malcolm Jones – the man who designed, developed and engineered the T27 and B110 when he worked for KEF – has truly nailed the Holy Grail of verisimilitude with its Gold Badge edition (*HFC* 470),

DETAILS

PRODUCT
Rogers LS3/5A SE

ORIGIN
UK

TYPE
2-way standmount loudspeaker

WEIGHT
4.9kg

DIMENSIONS
(WxHxD):
190 x 305 x 165mm

FEATURES
- 19mm Mylar dome tweeter
- 110mm Bextrene mid/bass driver
- Quoted sensitivity: 82.5dB/1W/1m (15ohm)

DISTRIBUTOR
Rogers International UK Ltd.

TELEPHONE
01333 5330135

WEBSITE
rogers-hifi.uk

re-manufacturing the LS3/5A's original drivers exactly as they were under the auspices of now technical consultant Jones. And, with polypropylene capacitors standing in for the original and now vanishingly scarce polycarbonate types, that goes for the crossover with its transformer style inductors, too.

True, there is a handful of well-liked LS3/5A 'homages', latter-day designs inspired by the old timer that seek to de-emphasise its weaknesses (no low bass, limited loudness and dynamic range) with up-to-date drivers and other respectfully taken liberties. The 3/5 Classic from Spendor and the P3ESR XD from Harbeth – both early LS3/5A licensees – are good examples. But purposely setting out to realise an 'evolved' version the sacrosanct BBC recipe could be considered punchy indeed – a leaf out of the Linn playbook, maybe, but possibly perceived as borderline aberrant behaviour by purist devotees.

The temptation was clearly too much for Rogers, a prolific producer of early LS3/5As and still a prominent keeper of the faith with its straight-ahead, to-the-letter 15ohm version of

Top-drawer build and finish are a given, and the open-grain Olive Ash SE is classy

the pint-sized icon. But what you see here is the new, more expensive LS3/5A SE, and it exists for one reason alone: to be an LS3/5A in every way, only better. And better not in the 'homage' sense of buttering up the overall balance, but better by comfortably eclipsing the standard article's already remarkable A game. And that's something else.

Panzerholtz sounds like something you might use to scour the kitchen sink. The penny drops in English. 'Tankwood' is hard, stiff and allegedly bullet-proof stuff, a mix of hardwood and phenolic resin with iron-rivalling density, but none of its tendency to resonate. To begin with, Rogers made dedicated speaker stands with it, the idea being to extract more performance from the LS3/5A without touching the speaker itself. It worked so well, 'what if…?' conjectures inevitably followed and replacing the cabinet's thin plywood baffle with one made from Panzerholtz ended up on the job sheet as the most practical and cost-effective modification. Radical for sure. Other finessing tweaks included giving the mid/bass driver a second coating to marginally increase efficiency and replacing the R1 and R2 resistors in the crossover with higher quality items of the same value – for reasons of tonality according to Rogers' Andy Whittle. Top-drawer build and finish are pretty much a given with new LS3/5As and, even at £3,500, the open-grain Olive Ash SE option supplied looks and feels appropriately classy. Almost flush sockets on the back mean cable terminations are limited to banana plugs, in this instance attached to 3m runs of Nordost Red Dawn.

HOW IT COMPARES

Rogers LS3/5A SE unquestionably has a very special skillset, but if you're in the market for a latter-day LS3/5A, there are a few to choose from – as indeed there have been for many years. And although lacking the 'letter of the licence' authenticity on display with Falcon's Gold Badge edition, Rogers itself and Sterling produce worthy designs that stay close to the original BBC recipe. Spendor and Harbeth still have some skin in the broader market, too, though their current efforts are more conscious updates of the LS3/5A rather than faithful replicas of the Seventies design and, if you're not so much of a purist, certainly worth an audition.

Sound quality

Before reviewing the Gold Badge edition of Falcon Acoustics' LS3/5A, I had imagined that it might be the sort of speaker I'd keep in reserve for whenever I need a midband naturalness reset. Truth is, I listen to them when I'm not reviewing other stuff for pure enjoyment. I'm a huge fan. So, I'm intrigued. Is arguably the first true LS3/5A 2.0 in the model's long history a game changer or well-intentioned folly? No surprise, then, the Falcons are standing by.

Best dinner service for this one with a Chord Electronics Hugo TT2 (*HFC* 468) DAC decoding digital, an Acoustic Signature Double X Neo turntable and Tom Evans Audio MicroGroove SRX+ fielding analogue with amplification provided by Electrocompaniet's estimable ECI 80D (*HFC* 473) integrated amp.

First, and most obviously, the SE sounds louder than the Gold Badge for a given volume input. You'd swear it's gained at least a couple of dB in efficiency and I'd be surprised if there hasn't been a small measured improvement from the usually quoted 83dB. But Whittle confirms my suspicion that the impression is mostly subjective because, in a nutshell, the SE immediately seems the friskier and more resolute speaker with greater dynamic reach, as if the drivers are functioning with less loss to the cabinet – the core idea behind the SE treatment, after all.

Naturally, this has consequences, and they're mostly enhancing. No one would ever accuse the Falcon Gold Badge of being anything less than a paragon of precision in both imaging and timing. And yet, such is the speed and leading-edge definition of the SE, that the Falcon can occasionally seem a little approximate by comparison. Playing a Tidal Master stream of Caravan Palace's extraordinary, studio-effects driven *Leena*, the Rogers makes a slightly better fist of separating the various elements in a marginally broader and deeper soundstage and it does so with greater conviction and drive. It's a more exciting listen, which is a definite plus with this track.

Yet this sense of heightened enthusiasm can sometimes tip things over the edge. *Praises Go Up* from Geneen White is a fiercely fast, rhythm-driven slice of old-school gospel that sounds so explicit through the Rogers it seems almost to trip over itself. Not so with the Falcon's slightly looser and more relaxed portrayal, which restores a more natural sense of flow and impetus.

As the listening sessions wind on, the dividing lines become still clearer. Against the Falcon benchmark, the Rogers, amazingly, has the cleaner, tauter, more transparent presentation with a wider dynamic range and broader, deeper soundstage. In modern terms, the SE the superior speaker. Tonally, it's a shade cooler and drier than the Gold Badge and the bass, such as it is, a little less well padded. And it's here that the original LS3/5A, as represented by the Gold Badge, fights back. It's the warmer, sweeter-sounding proposition. It has an inherent lucidity and grace the Rogers can't quite match. Vocals – especially on vinyl via the Acoustic Signature/Tom Evans combo – sound richer and sexier, if less immaculately detailed. The Rogers SE is a phenomenally good LS3/5A, but for me the Falcon's charm is magical and (still) impossible to resist.

Conclusion

That the hi-fi world is a better place with the Rogers LS3/5A SE in it is beyond doubt. Yes, it's pricey, but for that you get a design that, in many respects, eclipses the iconic old timer's best game. What it doesn't do is invalidate the sonic personality that makes the original so compelling. Best of all, there's now a choice ●

Hi-Fi Choice

OUR VERDICT

SOUND QUALITY ★★★★★

VALUE FOR MONEY ★★★★½

BUILD QUALITY ★★★★★

EASE OF DRIVE ★★★★½

LIKE: An LS3/5A with more pep in its step

DISLIKE: A slight charm deficit compared with the original

WE SAY: The SE is very special and makes a strong case for being the best LS3/5A ever

OVERALL ★★★★★

DETAILS

PRODUCT
Grell TWS/1

ORIGIN
Germany/China

TYPE
True-wireless, noise cancelling in-ears

WEIGHT
7.3g

FEATURES
- 10.1mm dynamic driver
- Noise Annoyance Reduction system
- Frequency response: 4Hz-22kHz

DISTRIBUTOR
Grell

WEBSITE
grellaudio.com/en

Quiet riot

Grell might be a new arrival in the world of wireless audio, but the pedigree is impeccable notes ***Ed Selley***

Grell might be new, but its namesake certainly is not. Axel Grell was the senior engineer at Sennheiser, behind many of its most iconic designs.

The TWS/1 is largely in keeping with the basic spec that true-wireless designs seem to be coalescing around. A single 10.1mm dynamic driver is used in each enclosure. A Qualcomm 5141 chipset supports Blueooth 5.2 with extended support for aptX, aptX Adaptive, LHDC and AAC on top of the basic SBC codec. Grell says the battery life is eight hours from the buds without noise cancelling and six with. The case gives four full charges from its internal battery.

The bass is deep, controlled and detailed with a meaningful weight

The noise cancelling features a system called Noise Annoyance Reduction (NAR). This EQ option takes into account the output of the headphone post noise cancelling being applied and studies it in real time for any unwanted effects. This is applied via a third-party app called SoundID that undertakes a brief listening test and applies correction to suit based on that. You can also adjust the EQ curve to suit your preferences.

But not everything on the TWS/1 is quite so slick. For starters, it's larger than any other design I've tested. It's not uncomfortable, but you are aware of it. Grell has also opted to make as many commands as possible adjustable without the app. This works to a point but performing some actions is harder than it needs to be. The build and finish on both case and earphones is excellent and the finish is attractive.

Sound quality

Having followed the painless and straightforward setup instructions, the Grell consistently impresses. Connection stability to my Oppo smartphone is unconditional and there is a decent level of range too. This isn't the sort of device that introduces an attention-grabbing aspect of its performance. Instead, it does a fine job of delivering a very even and cohesive musical message. It takes the driving electronica of Wild Beasts' *Alpha Female* and captures the intensity and swagger while doing a commendable job of opening out this dense production. This is underpinned by deep but controlled and detailed bass that has meaningful weight.

This lack of emphasis on any particular aspect of the performance ensures you can change tack and move to the gentle and emotive *Liberty* by Anette Askvik with the Grell capturing her superb vocal skills extremely well. There is a genuinely impressive level of three-dimensional space that helps to avoid the very left/right style of presentation that some in-ear designs can suffer from. In fact, there is enough sense of audio happening in front of you to forget you are wearing them altogether.

The true star turn of the Grell, however, is that the impact of the active noise cancelling is subtle and generally doesn't have the effect of changing any aspect of the tonal balance – which is an admirable achievement. As well as being fairly 'light touch' in its application, the level of noise cancelling is extremely impressive. I generally don't regard in-earphones as being able to match up to full size, over-ears in terms of keeping the outside world at bay, but the Grell is the device that gets closest. It is certainly up to the job of handling short-haul flights.

Conclusion

What this adds up to is a true-wireless earphone that leverages Axel Grell's vast experience to deliver a level of performance that is seriously impressive at the price and that has a particular talent for working in noisy spaces that many other in-ear designs will struggle with. The TWS/1 isn't perfect; the fairly large size and somewhat fiddly gesture-based operation will be a little too complex for some. The sonic performance, however, with its welcome blend of transparency and engagement should win it many friends ●

HI-FI Choice

OUR VERDICT

SOUND QUALITY ★★★★★
VALUE FOR MONEY ★★★★★
BUILD QUALITY ★★★★½
FEATURES ★★★★½

LIKE: Excellent sound with and without ANC; well made; stable performance

DISLIKE: Large buds; fiddly operation

WE SAY: An excellent performer that can continue to deliver even when used in noisy spaces

OVERALL ★★★★½

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Hi-Fi Choice RECOMMENDED

Go with the flow

A new Roksan turntable is a rare thing indeed and the Attessa pitches into a competitive area. ***Ed Selley*** sees if it holds its own

Since Roksan was acquired by Monitor Audio in 2016, things have been quiet for the brand. However, the arrival of the Attessa range changes all of that. Roksan has never been particularly prolific in this area, but the Xerxes and Radius have fine reputations at their price points.

The Attessa is a clean-sheet design; there's next to nothing you can readily identify from existing models that has been employed in its design and construction. This is perhaps most apparent in the plinth. This is a single section, rather than one split by decoupling 'blobs' as used in the older models. A reasonable degree of isolation is achieved via three slightly pliant feet, but there's no other suspension or decoupling. This plinth mounts the bearing; which extends a considerable distance below the bottom and a 24-pole synchronous motor that acts via a belt on the sub-platter.

The motor operates on a surprisingly low 5V power supply. Not only that, but the PSU has sufficient oomph to also run an internal phono stage and a touch panel to select 33 and 45rpm speeds. This is impressively efficient although the PSU feels cheap. Rather more impressive is that the Attessa is a two-pin product with no external ground that remains completely hum free across all the things I test it with.

The platter is a combination of 10mm-thick high-mass tempered glass with an aluminium edge that is cut inwards towards the lower section. It is topped by a felt mat with the characteristic triangular cutouts that serve as a visual link to the Xerxes. The tonearm is a unipivot design and has an armtube that's flatter and wider than standard. This is made of a 5052 aluminium upper segment with ABS plastic lower. At the top of the pivot it forms a flat circular section. This is stainless steel and can shift on and off the pivot, but can't be lifted off completely. The wiring routes internally rather than looping outside the housing.

Around the back of the arm the metal section curves and creates a space for the counterweight, which moves back and forth on a threaded stub for usefully fine adjustment. At the other end is the Roksan Dana cartridge, which appears to be a simplified version of the Corus 2 moving-magnet design and has an aluminium cantilever and unspecified stylus. Output is quoted at 3.5mV; lower than some MMs, but not likely to be an issue for most phono stages.

The turntable is a beautiful example of industrial design, but I find myself questioning who exactly it's aimed at. With its electronic speed control and relatively limited upgrade potential, the Attessa leans more towards the lifestyle end of the market, while conversely the tonearm requires its owner to have an understanding of how to set the azimuth and it feels less 'planted' than a more conventional bearing design.

The effortlessness of its performance can elude more propulsive rivals

Something that also deserves praise is the quality of accessories supplied, which puts most rivals to shame. The inclusion of a lid (albeit one that lifts on and off rather than being hinged) and the switchable phono stage, complete with short but useful interconnect, makes this an easy turntable to live with.

Sound quality

Initial testing takes place with a Cyrus Phono Signature Phono Stage (*HFC* 408) connected to a Chord Electronics CPM2800MkII integrated amp, before

DETAILS

PRODUCT
Roksan Attessa Turntable

ORIGIN
UK

TYPE
Unsuspended, belt-drive turntable

WEIGHT
6.3kg

DIMENSIONS
(WxHxD)
432 x 105 x 353mm

FEATURES
- 33 & 45rpm
- Unipivot tonearm
- Dana moving-magnet cartridge

DISTRIBUTOR
Monitor Audio

TELEPHONE
01268 798900

WEBSITE
roksan.com

switching the phono stage into the circuit and connecting the Attessa direct to the Chord. The first and most noticeable result is that the Roksan does its best work via its own phono stage. Whatever the notional advantages of the Cyrus, the manner in which the Attessa gets stuck into Emily King's *Scenery* seems a little more fluid via the on-board option.

'Fluid' is a word that crops up a lot in my notes. This isn't a turntable that fizzles with latent energy or that goes for attention-grabbing fireworks. Instead, with *Go Back*, the Attessa flows through the performance in a manner that is extremely satisfying. The timing is usefully tight, but there's an effortlessness to the performance that can elude more propulsive rivals. The decision to go with a unipivot arm results in an extremely natural sound, free from any mechanical transference.

Further up the registers, the news is still rather good. The Dana cartridge might not be as highly specced as the Corus 2, but this is a refined and spacious performance that gels well with the turntable as a whole. It tackles the periodically edgy *Bright Magic* by Public Service Broadcasting in a manner that keeps the excitement of frenetic tracks like *Der Rhythmus Der Maschinen* but avoids becoming bright or overly forward. It's extremely well judged. This isn't the hardest-hitting turntable you can buy at this price; the bass it delivers is articulate and tuneful, but never truly seismic in terms of impact. This serves to increase the focus on the fluid and engaging midrange, though.

Combining the Attessa Turntable with the Attessa Streaming Amplifier (*HFC* 487) does little to change my original assessment that the on-board phono stage remains the best option over the (perfectly respectable) one in the amp. Going 'all Roksan' results in a combination that is undramatic, but impressively musical. With the bombastic *Imploding The Mirage* by The Killers, it manages to keep the excitement that the band delivers so effectively but simultaneously avoids any sense of fatigue creeping in. In a dealer demonstration I don't think this is the model that's going to leap out at you, but I suspect that the longer you listen the more its virtues will make themselves felt.

HOW IT COMPARES

The Roksan is £100 more than Technics' SL-1500C (*HFC* 453) and uses very different means to achieve the same sort of package. The Technics feels more solid and its arm is more confidence inspiring to use. The Attessa cannot match the impact and drive of the SL-1500C, but it sounds more fluid and natural and the Dana cartridge is quite a bit better than the 2M Red that the Technics comes supplied with. If you set it up correctly, the Roksan has scope to out-perform the Technics.

Conclusion

This, then, might be best seen as something of a slow burner. The Attessa Turntable has virtues that are a little different to the ones that many similarly priced rivals bring to the table. This record player never seeks be the story itself, but consistently manages to tell very good ones with the records you choose to play on it which is wholly in keeping with the company's longer-running models. When you consider the decent spec, solid build and attractive aesthetics, you have a very accomplished and charming turntable indeed ●

Under the felt mat is a 10mm-thick high-mass tempered glass platter with aluminium edge

Hi-Fi Choice

OUR VERDICT

SOUND QUALITY ★★★★½
VALUE FOR MONEY ★★★★½
BUILD QUALITY ★★★★½
FEATURES ★★★★★

LIKE: Flowing, engaging performance; decent spec; well finished

DISLIKE: Arm can be odd to use; some rivals sound more exciting

WE SAY: Blending audiophile smarts and convenience, the Attessa appeals more the longer you use it

OVERALL ★★★★½

Space race

Less hefty on his wallet than the company's previous Peacock offering, ***Cliff Joseph*** takes flight with Sendy Audio's Apollo

At first glance, Sendy's Apollo looks very similar to its Peacock (*HFC* 486), with its large wooden earpieces and an open-back design adorned with an eye-catching perforated metal grille. The Peacock provided impressive sound, but was matched by a hefty £1,300 pricetag.

In contrast, the Apollo proves a far more affordable option although it's not too difficult to reduce the price once you cut back on details such as the 24K gold trim found on the Peacock. While the Apollo uses a similar planar-magnetic design, its drivers are slightly smaller, measuring 68mm. These are the only compromises Sendy has made here, though, and the Apollo provides the same sturdy build quality and the same promising 20Hz-40kHz frequency response. The radiating 'starburst' design on the back of the earpieces is quite striking.

I actually prefer the design of the Apollo, not least because its weight of 395g is considerably lighter than the Peacock. The comfortable earpieces are padded with memory foam and are so large they barely touch my ears at all, which helps ease the pressure on the sides of my head and allows the adjustable metal headband to carry most of the weight. My only concern is that the bulky earpieces might be too big for some, so it might be worth trying the Apollo on in a showroom before splashing the cash.

Apart from the sturdy leather carrying case all that's included is a 2m double-ended braided copper cable. This provides twin 2.5mm connectors for the earpieces, with a 4.4mm connector for your audio devices, and there's also a 4.4mm-to-3.5mm adapter included.

Sound quality

The Apollo is less than half the price of its gold-trimmed stablemate, but it can give the Peacock a run for its money. Max Richter's *On The Nature Of Daylight* is sedately paced, but the Apollo takes the opportunity to allow the slow melody of the deeper strings to breathe and express itself. It does a fine job of capturing their rich texture and then contrasting it with the sharper, more urgent tone of the violins. It also creates a nice sense of space, giving the intertwined melodies plenty of room to weave around each other before coming together for the final crescendo.

My only – admittedly minor – reservation is the Apollo doesn't have quite the same purity of sound as the more expensive Peacock, perhaps sounding a shade warmer on the lush orchestral arrangement.

After all that orchestral tastefulness, I turn to the more chaotic charms of My Chemical Romance and *Vampire Money*. The Apollo takes the change of mood in its stride, delivering the drum intro with a resoundingly firm slap and catching the nervous energy of the band as Ray Toro and Mikey Way warm up by torturing the strings on guitar and bass before launching into some high-speed riffing. The guitar break halfway through is a riot, but the Apollo holds it all together, leaning on the firm, steady bass and drums to underpin Toro's frantic fret work, while the shimmering cymbal sounds like someone throwing an endless succession of bricks through sheets of glass.

I'm even impressed to find that the Apollo can play a mean bass, too. The slinky riff that drives Leonard Cohen's *You Want It Darker* glides along with a taut, tense rhythm, but that's balanced by the metronome precision of the sharp, tapping snare. Even deeper and more expressive is Cohen's own bass rumble as – on the last album released before his death – he intones: "I'm ready, my lord…"

Conclusion

I can't help feeling that the Apollo adds a little warmth to the sound, but it always seems to match the emotion of the piece, and at this price it's a good option if you want open-back headphones that don't cost the earth ●

DETAILS

PRODUCT
Sendy Audio Apollo

ORIGIN
China

TYPE
Over-ear, open-back headphones

WEIGHT
395g

FEATURES
- 68mm planar-magnetic drivers
- Frequency response: 20Hz-40kHz
- 2m cable with 4.4mm balanced connector

WEBSITE
sendyaudio.com

HI-FI Choice OUR VERDICT

SOUND QUALITY ★★★★☆
VALUE FOR MONEY ★★★★☆
BUILD QUALITY ★★★★☆
FEATURES ★★★☆☆

LIKE: Well-balanced and expressive sound; competitive price

DISLIKE: Comfortable, but big and bulky

WE SAY: An attractive sound and more affordable price than most open-back headphones

OVERALL ★★★★☆

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To the Max

Can the AirPods Max become the apple of ***Jake Day Williams***' eye or will the US company's shortcomings hold it back?

Apple has come to be known for doing things its own way. But part of what makes it quite so successful – a desire to do things differently – conversely also turns out to be one of its biggest downfalls. And no product illustrates this better than perhaps its flagship headphone.

Though it supports Bluetooth, the AirPods Max does so using the archaic AAC lossy compressed codec, which results in music quality that doesn't even match CD. Most other rivals in the £500 ballpark almost certainly offer aptX HD (hi-res 24-bit wireless transmission). Quite why Apple has made such a glaring omission probably has more to do with the tech being owned by Qualcomm – one of its biggest rivals – than a desire to do things differently. Regardless, it means the AirPods Max is effectively fighting with one arm tied behind its back. Further compounding the issue is that Apple's flagship cans can't play back the lossless audio provided by its own Music streaming service. Embarrassing doesn't come close...

From the pristinely machined single-piece anodised aluminium earcups to the stainless-steel headband, this is, however, a beautifully manufactured product. Where others go for touch controls, the AirPods Max has a simple button for switching between noise-cancelling modes and a volume dial inspired by the digital 'crown' on Apple's watches. Those users that are sick of awkwardly swiping, tapping and gesturing to control their headphones will love this addition.

The earcups are home to Apple's own 40mm drivers and H1 processors and are covered in deep, comfortable memory foam padding, but the design is a bit Marmite. The finishes available include Pink, Sky Blue, Green, Silver or Space Grey – all of which are equally divisive. Bundled accessories include a Lightning-to-USB-C charging cable and a pretty ineffective plastic cover.

DETAILS

PRODUCT
Apple AirPods Max

ORIGIN
USA/China

TYPE
Wireless Bluetooth noise-cancelling headphones

WEIGHT
387g

FEATURES
- 40mm drivers
- Bluetooth 5 with AAC
- Active noise-cancellation, with 'transparency' mode

DISTRIBUTOR
Apple UK

WEBSITE
apple.com

Sound quality

Before we get started, let's put a popular myth to bed: the AirPods Max works well with non-Apple products. So if you think just because you're not an iPhone user this isn't for you, think again. The sonic attributes – limited though they are by AAC – are superb. Kicking off with *Nightmares On Wax's Up To Us*, I am able to pick out fine details like breathing from the vocalist that I've never heard before. The level of clarity and vitality is impressive, gifting the performance authenticity that's rare at this price.

Switching to the more subtle world of Aldous Harding's *Ennui*, the delivery is stunning. The parping of saxophone and plonking of piano are distinct from one another in the soundstage while Harding's vocals stand dead centre. The instruments sound precise yet organic with a believable tone and subtle texture that is completely convincing with the striking of the keys and the degradation of the notes as they fade adding new levels of nuance to the performance.

Noise-cancellation modes work well and are on a par with rivals costing around the same. There's a very slight flattening of dynamics that means Future Sound Of London's *Smoking Japanese Babe* loses some of its low-level punch, while treble is pushed further up in the mix. The results are by no means terrible, but given the choice it's better to turn ANC off if you don't require it.

Conclusion

The main problem with the AirPods Max is not so much it doesn't work well with non-Apple products – it does – it's the absence of aptX and the sonic limitations of AAC. Otherwise it is comfortable, beautifully designed and the claimed 20-hour battery feels conservative. The sonic performance is on the whole deeply impressive. Get the aptX issue sorted, and Apple will be onto a winner ●

Hi-Fi Choice OUR VERDICT

SOUND QUALITY ★★★★½
VALUE FOR MONEY ★★★½☆
BUILD QUALITY ★★★★½
FEATURES ★★★½☆

LIKE: Crisp, clear performance; deep fulsome bass; impressive fine details

DISLIKE: Price; poor case; lack of aptX HD

WE SAY: An impressive performance that's severely hamstrung by the limitations of AAC

OVERALL ★★★★☆

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THIS MONTH

ED SELLEY

EXPERTISE: REVIEWER
Active in the industry since 1999, Ed's first record was *Boss Drum* by The Shamen. He splits his time between reviewing and protecting hi-fi kit from his son Will.

NEVILLE ROBERTS

EXPERTISE: ENGINEER
Neville has an eclectic taste for classical baroque and jazz. His wife was forced to marry his transmission line speakers in the eighties and he collects BBC test card music.

JASON KENNEDY

EXPERTISE: REVIEWER
Editor of *HFC* from 1998 to 2001, Jason's first turntable was Rega's Planar 3 and Elvis' *40 Greatest Hits* was his first vinyl, so don't go stepping on his blue suede shoes.

DAVID PRICE

EXPERTISE: REVIEWER
DP two-finger typed his first hi-fi review 25 years ago. Since then he's edited *Hi-Fi World* and *HFC*. He describes himself as an "unreconstructed analogue addict".

CHRIS WARD

EXPERTISE: REVIEWER
Like his first kiss, Chris will never forget the sound of his first amp – an Aura Evolution VA-100. *War Of The Worlds* and Fleetwood Mac's *Rumours* were his first records.

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What's the point?

I've read lots about the importance of being able to upgrade in your turntable reviews. But I am confused about what upgrades actually offer. What is the benefit in a new tonearm? And can you explain to me the performance differences between moving-magnet and moving-coil carts?
Steven Royale, London

DP: There are, essentially, two types of hi-fi turntable – those that come as plinth, motor unit and tonearm in the same package and those that are bought separately. For example, the Rega Planar 3 or Technics SL-1200G belong to the former as 'plug and play' spinners designed to be left that way.

The second type is something akin to a Linn Sondek LP12 or Michell GyroDec, where you buy the plinth/base, motor and platter as one – and then add your own choice of tonearm and cart.

This second category is obviously better suited to upgrading later. For example, you could start with a basic Rega RB220 tonearm on a new GyroDec, and later upgrade to an Audiomods Series Six for better focus, soundstaging, bass power, treble detail and superior handling of rhythms and dynamics.

Tonearms and cartridges are just another way of upgrading your turntable's performance

CW: A cartridge works by generating a tiny electrical signal from the relative movement of a coil in the proximity of a magnet. In a moving-magnet (MM) cart the magnet is attached to the end of the cantilever tracing the groove and is surrounded by an electrical coil. In a moving-coil (MC) cartridge a tiny coil is attached to the end of the cantilever surrounded by a magnet.

The MM requires the cantilever to vibrate a relatively heavy magnet meaning it is slightly less able to react to the most microscopic detail in the groove. Conversely the MC vibrates a relatively light coil so it is more able to react to infinitesimally small details.

The upside of an MM is it will generate 10 times the current of an MC. This means the tiny signal needs less amplification to reach sensible listening volumes. Some people prefer the simpler drive and authority of a moving magnet whereas others relish the microscopic detail that only a moving coil can extract. Moving-coil cartridges usually require a more sophisticated phono stage to handle the tiny signal.

JK: Turntables have quite a difficult job, they have to 'read' the miniscule vibrations in a vinyl groove without adding any vibrations of their own. This requires very fine tolerance engineering and ingenious design to do well and the tonearms sold with some turntables can be a limiting factor to how accurately the stylus is able to trace the groove.

NR: Tonearms have a huge effect on clarity, imaging, instrument focus, depth and space, as well as the tracking ability of the cartridge. It is also very important that, being a

WE ASKED...

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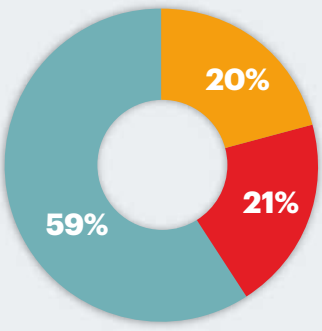
- Yes and I love it
- No but I intend to invest in a player in the future
- No



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mechanical form of reproduction, the effective mass of the tonearm and the compliance of the cart are matched to minimise mechanical resonances. Generally speaking, a low-compliance cartridge matches well with a high-effective mass arm and *vice versa*. This combination of effective mass and compliance has an impact on tracking ability and results in a particular resonant frequency of the arm/cartridge combination. Every combination of arm and cartridge has a natural resonant frequency, which should be about 10Hz. If it is much higher than this it will intrude into the low frequencies of the recording, such as low organ notes.

ES: Everything from the shape of the stylus, the material the cantilever is made out of and the means those wobbles are turned into a signal and on from there is a calculation around the quality of engineering you are paying for. Tonearms are no exception to this; more expensive and ornate designs are more rigid (so resonances they produce are better managed) and their bearings have less effect on the audible performance. On a more practical level, some arms are easier to change cartridges on.

Wood you believe it?

Ed Selley says in his review of the Rega System One (*HFC* 487) that the MDF cabinets used in other Rega speakers can't be used for the Kyte at £500. Eh? What about Q Acoustics, PSB, Wharfedale, DALI and others? There are lots of standmounts available with MDF cabinets at £250 to £500!

I find it curious he rates the Kytes so highly when other publications found them lacking and the spoiler in the System One. Also Ed barely mentioned the cartridge – a re-badged Audio-Technica AT3600L.

On a broader subject, hi-fi has become more and more of a niche interest. I know hardly anyone who is into it today. For myself, I am not interested in streaming and think it is unsustainable, with the miniscule amounts paid to artists for their work. I'll stick to CD, vinyl and cassettes.

Rod Theobald, by email

ES: Hi Rod, the important snippet missing in my statement is from the perspective of manufacturing in the UK. As you note, it is possible to build something out of MDF at the price but doing it here is a tougher proposition.

With subjective reviewing you are always going to find a difference of opinion. My preference would be to trade an octave of sluggish low end for a speaker that doesn't have the same outright extension but is usefully responsive. The info on the cartridge was omitted for more prosaic reasons of space. We've covered the Planar 1 and Planar 1+ (*HFC* 438) in their own reviews in the past so, with a complete system to cover, some more specific details have to fall by the wayside.

JK: Having tested the System One, I can confirm Ed's findings overall and with regard to the Kytes, they have a less thick character than MDF boxed speakers and a speed and musicality that makes them excellent value.

Rega's Kytes have a speed and musicality that makes them excellent value

NR: I think you'd be surprised about the interest in hi-fi these days. I have quite a few non-technical friends who are very interested in high-quality audio reproduction. Young people are also realising they can get more enjoyment from their music if they listen in good quality. The focus of interest does keep shifting however,

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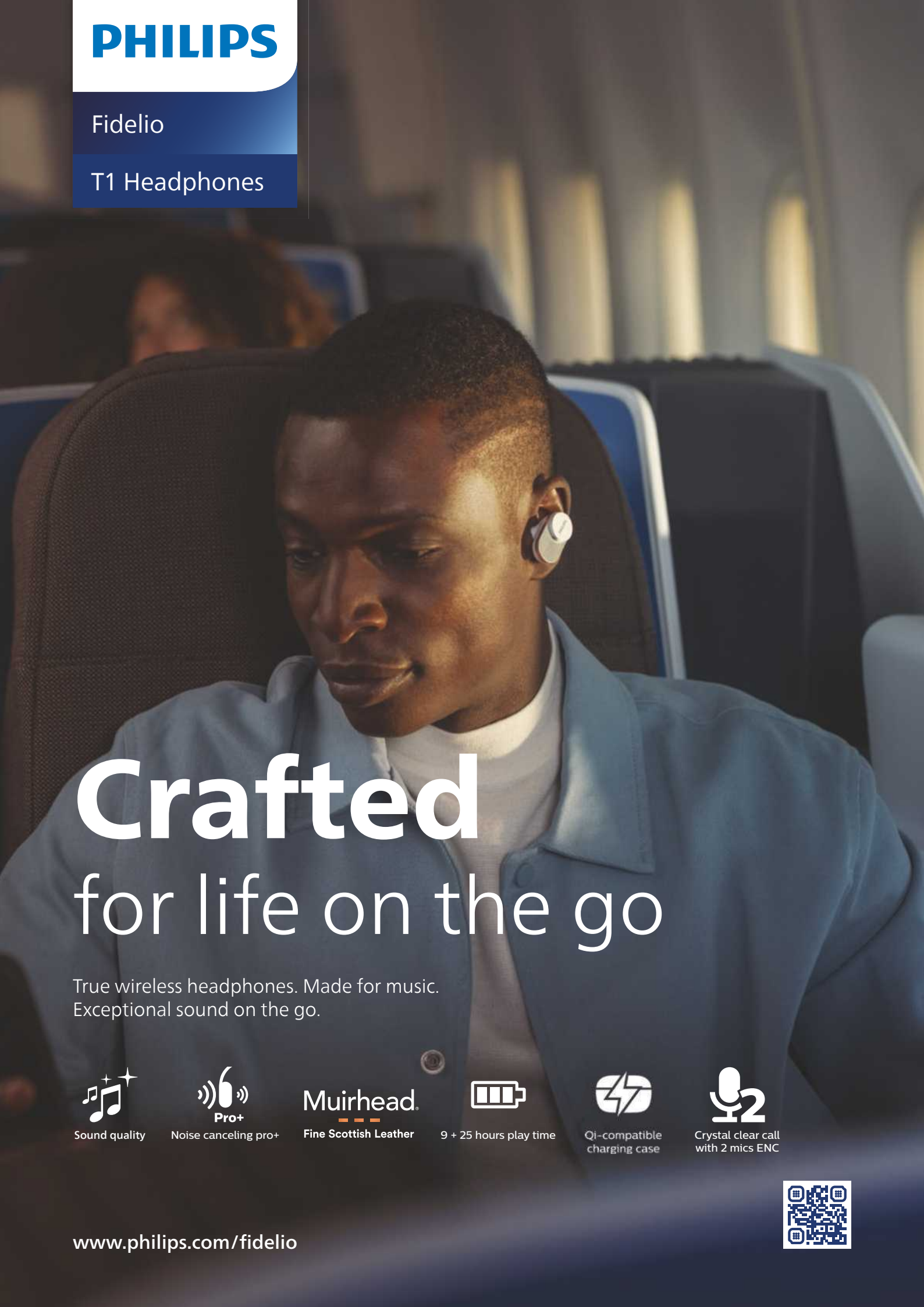
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with different media going in and out of fashion, as with the revival of vinyl and open-reel/professional tape.

LETTER OF THE MONTH

Just visiting

I subscribe to your great magazine and live in the South-East of the UK. Do you know if any UK-based hi-fi companies offer factory tours? Reading your reviews makes me want to see audio components being made.

Graham Sear via Facebook

DP: It varies Graham. Some offer factory tours – or certainly did pre-COVID – and some don't because they're basically design and marketing operations that use overseas (usually Chinese) manufacturing plants. It's really a case of phoning the company you're interested in and asking them.

CW: In my experience companies are flattered by any interest shown in

Do you know if any UK-based hi-fi companies offer factory tours?

them. Please bear in mind, though, that most need to keep scrupulously clean assembly lines and are unlikely to be set up to guarantee health and safety of the general public – so may actively discourage you. In general, I've found turntable manufacturers to be the most fascinating to visit because they are often driven by an immense pride in physical precision engineering prowess and there's nothing quite like seeing gleaming aluminum being milled or turned to fire the imagination of what might be possible to make. Let us know if you have any luck.

JK: It's worth getting in touch with Bowers & Wilkins as it manufactures its 800 series models in Worthing near Brighton. In fact it's worth asking almost any manufacturer in your locality, they are usually quite friendly.

NR: I think Naim Audio in Salisbury used to do factory tours. Nowadays I believe such visits are organised via retailers, but you might like to give Naim a ring to check.

So sensitive

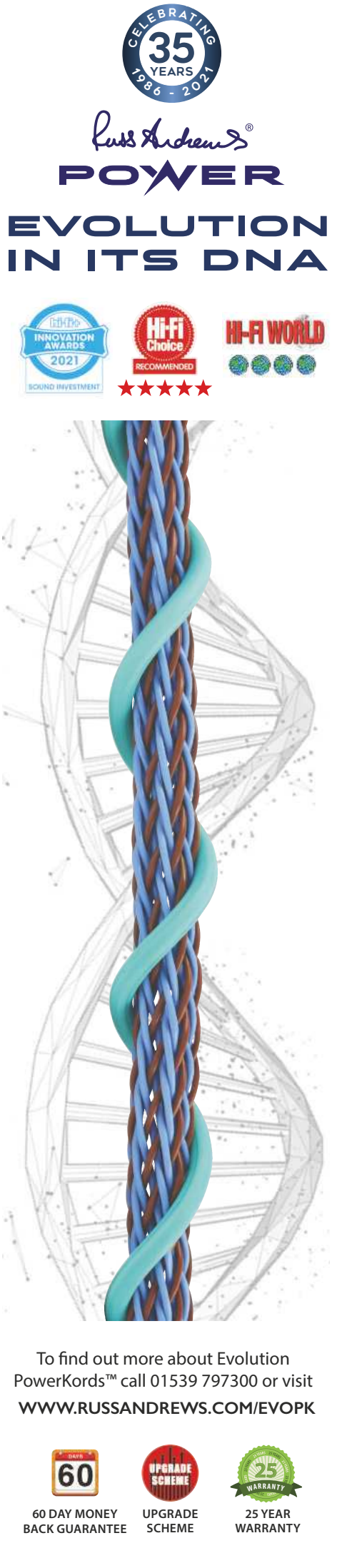
Can you explain the significance of speaker sensitivity (ie: what's the difference between an 8ohm reading and a 4 or 15 one?) and how this relates to the quoted power output of the amp that you are matching your speakers up with? Many thanks.

Darren Miller, Manchester

CW: Speaker sensitivity is very much a dark art Darren. The impedance of the speaker is broadly a measurement of the load any amp will feel as it tries to drive it. Sensitivity is a measurement of the sound pressure generated by the application of 1W of power measured 1m from the speaker. In practice both numbers are an indication of what you will experience rather than pure science as actual music. Generally speaking, the dB sensitivity of a speaker gives the clearest read of the real-world efficiency of it converting electrical energy to sound energy. All you need to check is that the impedance isn't a super-low number below 4ohm. The more important insight is that you really want any amplifier to be more than powerful enough to drive your loudspeaker without breaking into a sweat.

ES: The lower the impedance a speaker possesses, the higher the

B&W manufactures many of its loudspeakers in Worthing, near Brighton



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The main changes are to the sense of scale and to the frequency bandwidth. The sound stage is enlarged in all dimensions, bass is more extended and has more texture. Clarity is increased so that finest details are resolved readily, and images are more focussed. Dynamics and transients are notably faster.

All Puritan Audio models are available for a home trial: the Special Edition versions with the Furutech upgrades, and the standard versions without.

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3 PSM136 SE Schuko £1550
4 PS106 DC SE UK £1240

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It's important to match speaker impedance to the amplifier output

resistance it presents to your amplifier and the more current is required to drive it. It's worth noting that the impedance of a speaker is never the same figure all the time and the stated impedance is a 'best fit' of the numbers it presents. It is something that needs to be checked against the sensitivity figure to give an understanding of how hard a speaker is (or isn't) to drive.

***DP*:** Very low sensitivity speakers such as a BBC LS3/5a typically have a figure of around 83dB, whereas very high sensitivity speakers like Klipsch's La Scala AL5 have a figure of 105dB. Most modern speakers are in the mid-to-high eighties, though – with 86dB typical for a small standmounter like Q Acoustics' 3010i and 88dB for a compact floorstander like a Monitor Audio Bronze 200. A 50W RMS per channel amplifier driving 88dB sensitivity speakers will be loud enough for all but the largest of rooms.

I'd like floorstanders that will limit any harshness without losing excitement

Because impedance changes with frequency, manufacturers quote a 'nominal impedance' figure which is a good average measure. The lower the figure, the more demand the speaker makes upon an amplifier.

***JK*:** As a rule a transistor amplifier can deliver higher power into a lower impedance, that is a simplification but in general it applies. A very good amplifier can deliver twice its rated power at 8ohm into a 4ohm load, and a few monster amps can do that again into 2ohm. However power is no indication of quality and the ability to deliver high outputs into low impedances is not necessary with most loudspeakers unless you want to play at live concert levels, and then you really need a concert hall as well.

The load presented by a speaker to an amplifier is a combination of the impedance and the sensitivity and the former varies with frequency. The complexity of this means that the best way to partner speakers and amps is by ear with the aid of a good dealer.

***NR*:** It's important to match the loudspeaker impedance to that of the amplifier output that drives it. For example, an amplifier with 8ohm output will transfer the maximum amount of power to an 8ohm speaker. Connecting an 8ohm output to a 4ohm or 16ohm speaker will tend to sound quieter at a given volume setting. That's why an amplifier manufacturer will quote the maximum output power into a particular speaker impedance, ie: 20W per channel into 8ohm.

Sound advice

I would be grateful for your advice on what speakers to audition to partner my newly purchased Naim Nait 5Si and Naim CD 5Si. They replace an Arcam Solo Neo that has migrated to my office.

Currently the Naims are playing through Monitor Audio Silver RX2 standmount speakers. Also newly acquired is a Rega RP3 turntable with Exact cartridge and Rega MM phono amp. I had promised myself never to get into the upgrade spiral again. Clearly, I failed…

Compared with the Naim combo the Arcam is 'polite'. The Naims revealed much more detail and the reputation for pace and timing is no myth, but I sense a level of sibilance and harshness from cymbals *etc.* as well as a degree of 'congestion' around the midrange, which I attribute to the speakers, although the Naims have still

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had little 'up time' so are definitely not fully burned-in. Bass seems fine.

I am leaning towards some decent floorstanding speakers and would appreciate your suggestions as to what to audition that will temper any incipient harshness without losing excitement and the musical essence. The list of candidates in the £1k-to-£2k range is vast and I have thought about Monitor Audio, B&W, Spendor, Sonus faber and Fyne as well as Dynaudio, Focal and even the Linn Majik. Finding Naim dealers to line the candidates up is obviously valuable. One metre height is the maximum I have identified, with Spendor at the small end, Monitor Audio 500 and Fyne 502 at the large. Having a wood finish is also important.

My room is approximately 3.5 x 4.5m and the system plays across the diagonal. The variety of music played is ridiculously wide from Leveret and Sam Sweeney at one end to Steely Dan at the other, but the main focus is definitely on acoustic instruments and a natural ambience. I am listening to Blowzabella as I type this. (I still have some Yes albums, though, oh dear.) Any pointers you can give would be great.

Stephen Mummery, by email

JK: There's nothing wrong with Yes albums Stephen, well not the early ones... I would suggest something from Neat, its speakers have always worked well with Naim and never have harsh treble. I would suggest one of the models from the Motive range, which come in under budget and won't dominate the room.

ES: The Spendor A2 (*HFC* 429) works an absolute charm in this context; it's a pairing that is greater than the sum of its parts and will deal with the slight forwardness that you're currently experiencing. The Neat Motive SX-2 (below) is an excellent choice; perhaps a little more forward than the Spendor, but gloriously propulsive with it.

CW: Are you sure that your loudspeakers need changing immediately? Making many system changes at once can quickly get you into an unrecognisable place that's hard to navigate, especially as you recognise that new electronics benefit from a decent run-in. Asking a loudspeaker to be less revealing around treble and midband feels like it could be a slippery slope to overly softening the final link of your signal chain, especially after you originally found your Arcam amplifier to be too polite. Given your diagonal setup, I'm assuming the loudspeakers are possibly relatively close to walls, albeit at an angle? I'm guessing many Naim dealers might suggest some Focal loudspeakers to audition. My sense is that you need to take care not to overdrive your medium-sized room, so I'd be sticking with standmounts. Maybe give one of Spendor's Classic range an audition?

NR: I would suggest Falcon Acoustics' IMF200 transmission line floorstanders (*HFC* 482). They are available in kit form, but the cabinets and crossovers are already built and all you have to do is plug in the crossovers and screw in the drive units and you can save yourself £400 from the factory-built version. They will also tick your box in terms of a wooden finish as they are available in several stunning real-wood veneers, including walnut, rosewood and light oak. The cabinets are made of high-quality Italian Baltic birch plywood, and the finished speakers look and sound absolutely fantastic.

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What's in the box?

When it comes to choosing loudspeakers, there are many designs to pick from. ***Neville Roberts*** discusses what different cabinet enclosure types offer

One of the first issues that many people consider when choosing a speaker is its size and how it fits in their room. Size may be the factor that determines whether you choose bookshelf, standmount or floorstander. However, the design of the enclosure can have a significant impact on the sound.

The main use of the enclosure is to house the bass driver to control its resonances and acoustically couple it with the room. Midrange drivers need their own chamber separate from the bass to minimise interactions between the two. Tweeters are usually self-contained so don't need enclosures.

An important point to note is that to reproduce bass, you need to move lots of air. That means you need a larger area cone and enclosure than for higher frequency notes. Physics tells us that a sound of low frequency is heard with less intensity than one of a higher frequency of the same amplitude (ignoring the characteristics of the human ear and such things as Fletcher–Munson curves). The amount of energy in a wave is directly related to its amplitude and frequency. To transmit a bass note with the same energy as a high frequency one, the bass needs to have a larger amplitude. This means that a small speaker and bass driver can't accurately reproduce low bass notes.

The snag is that a large cone driver will have a natural resonant frequency within the audio spectrum that will colour the sound and this needs to be controlled by its enclosure. Also, inside the enclosure, reflections from the sound produced by the back of the cone and passing it can interfere with the sound from the front, adding extra colouration.

Your choice will be down to personal preferences, so let your ears decide

The role of the enclosure is to control the cone's natural resonant frequency and to separate the waves produced by the front of the cone from the waves produced by the back.

The simplest enclosure is the infinite baffle – a sealed box with internal wadding. This simulates a theoretical infinitely large baffle to isolate the front of the driver cone from the back, with some damping to control resonances.

A bass reflex or vented/ported enclosure has a vent or hole cut into the cabinet with a port tube fixed to it to improve low-frequency output, increase efficiency and reduce the size of the cabinet. This enclosure type is very common and provides more sound pressure level near the tuning frequency than a sealed one of the same volume. A variation of this is the passive radiator or auxiliary bass radiator (ABR), which uses a non-driven cone that moves as a result of the changing pressures inside the enclosure.

So many enclosure types to choose from and so little time...

An isobaric speaker uses two identical drivers, operating together one behind the other, with a body of enclosed air between the two cones. These are most often used to improve low-end frequency response without increasing cabinet size, though at the expense of cost and weight.

A horn speaker matches a horn with the driver cone to the air in the room. It has the effect of making the cone transfer more of the electrical energy in the voice coil into the air and improve efficiency, but they are big.

Walk the line

Finally, my favourite design – the transmission line labyrinth loudspeaker. Theoretically, this has an infinitely long acoustic line full of wadding to fully absorb the rear radiation of the driver. A practical design, however, has a tapered and damped internal line that is effectively a waveguide that shifts the phase of the driver's rear output and feeds it to an exit port. This has the effect of controlling the resonance of the driver and absorbing the energy from the rear of the cone, coupling the driver to the air in the room and reinforcing the bass response below resonance. A quarter wave transmission line is tuned to form a standing quarter wave at a frequency below the driver's resonant frequency. A quarter wave speaker will give a fantastically well-controlled and extended bass response, but is large and more complex to design and manufacture.

As with most things hi-fi, final choice will be down to personal preferences and there is no substitute for conducting your own listening tests ●

NEVILLE ROBERTS
Linesman

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Soft power

As the world reacts to Russia's invasion of Ukraine, ***Nigel Williamson*** protests against the cancellation of artists for the supposed crime of just being Russian

Soft power. You hear the phrase everywhere these days, particularly when politicians are harnessing the arts to their *casus belli*. There was Nadine Dorries, secretary of state for digital, culture, media and sport, telling the Commons that: "culture is the third front" in the Ukrainian war. "I've been working to mobilise the full might of the UK's soft power against the Russian state and applying pressure across the sectors," she boasted. Fair enough, Muscovites won't be getting to see Adele or Ed Sheeran in concert, although we could send James Blunt and see if him bleating *You're Beautiful* outside the Kremlin forces Putin to surrender.

The list of those who responded to the war by cancelling or postponing tours of Russia includes Nick Cave, Green Day, Iggy Pop, The Killers, Slipknot and Iron Maiden. Most cited "safety" rather than placing themselves in the vanguard of Dorries' "third front". Almost all also expressed a desire for peace and reconciliation and a hope that they would be able to perform in Russia again soon.

But what about Russian artists coming to the West? It is correct to ban sporting teams representing the country in international tournaments and to bar Russia from the Eurovision Song Contest. However, when it comes to individual artists who are not in any way representatives of the Russian state it's more complex.

It is wrong to ban Russian artists or demand they take loyalty tests

Everywhere you turn in the wake of the invasion, Russian artists and musicians have been cancelled, including at the Royal Opera House which has scrapped its summer season by the Bolshoi Ballet.

Dancers aren't politicians and the principal and another lead at the Bolshoi both resigned in protest at the war. We should also not forget that 60 years ago Rudolf Nureyev defected from the Soviet Union to the West when dancing with the Kirov in Paris.

The majority of artists see themselves as ambassadors for peace rather than envoys of Putin. The curator and artists behind Russia's national pavilion at the Venice Biennale all resigned in protest at the war in Ukraine, for example.

Of course, a boycott that targets those personally or financially associated with Putin's regime or who have expressed support for his aggression is honourable. It was right that the conductor Valery Gergiev was fired by Italy's La Scala and the Munich Philharmonic because he refused to condemn the invasion and is an ally of the Kremlin.

Yet artists who have condemned the war are also being cancelled. The most prominent is the greatest soprano of our age, the Russian-born singer Anna Netrebko. She lives mostly in Vienna with her husband, the Azeri tenor Yusif Eyvazov. He continues to be employed by western opera companies because he's not Russian. Yet she has been forced to withdraw from all of her performances and was effectively sacked by the Met in New York, where she was due to sing in Puccini's *Turandot*.

Anna Netrebko pays a heavy price for being born in Russia

"I am opposed to this senseless war of aggression and I am calling on Russia to end this war. We need peace right now," she said. But that was apparently not enough. Netrebko was also required to denounce Putin as the spawn of the devil, which she did not wish to do.

Crime and punishment

The brilliant young Russian pianist Alexander Malofeev notes: "Every Russian will feel guilty for decades because of this terrible and bloody decision that none of us could influence". Yet he has been dropped from a series of recitals in Canada. The Dublin International Piano Competition has similarly banned all 10 Russian entrants. Their views on the war were not canvassed and they were cancelled simply for the 'crime' of being Russian.

This is getting dangerously close to a new kind of McCarthyism. It is ethically wrong for organisations to ban artists for their nationality or to demand they take loyalty (or disloyalty) oaths. It's a tactic associated with Stalin.

When our screens have been filled with images of Russian tanks, the world needs to see that there is another Russia expressed in the innate humanity of its musicians and artists. They should be welcomed the world over.

Let me end with some further words from the 20-year old pianist Alexander Malofeev that seem to sum up the tragedy of the abuse of soft power: "No problem can be solved by war and people cannot be judged by their nationality. The only thing to do now is to pray" ●

NIGEL WILLIAMSON
Taking a stand

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Musicreviews

ALBUM OF THE MONTH

Rolling Blackouts Coastal Fever
Endless Rooms

★★★★★

CD **Sub Pop**

TOWERING CHORUSES, INTERLOCKING guitars, motorik rhythms and sparkling pop hooks – welcome to the first great post-lockdown record. In recent times we have reviewed many great albums shaped by the unique circumstances of the pandemic, recorded remotely and which had normal conditions prevailed would never have been made at all.

Australia imposed one of the longest and strictest lockdowns, but the third album from Melbourne's RBCF is the sound of the quintet reuniting as a real band to play together again and collectively bounce off each other's creativity following the long bout of enforced separation. In short, *Endless Rooms* finds the band simply doing what they do best: "chasing down songs in a room together," as they put it.

Formed in 2013, RBCF's full-length debut album *Hope Downs* appeared five years later and was promoted with a barnstorming 18-month world tour which established them as a thrilling live jam band. Yet by the time follow-up *Sideways To New Italy* appeared in 2020, the world had locked down.

The album garnered rave reviews and loomed large in 'best of the year' lists, but there was no chance to do what they should have been doing – playing the new songs to euphoric crowds from Glastonbury to Coachella.

Instead, they were forced to retreat into a world of separation and bubbles, restlessly longing for the moment they could come together again and let it all hang out. On the day the regulations were finally relaxed they reassembled in a rambling lakeside house in rural Victoria and began recording *Endless Rooms*.

Fizzing with a life-affirming energy, the dozen tracks are punctuated by a selection of field recordings of rain, fire, bird song and even the wind anchoring the record in the spirit of the place in which it was birthed.

RBCF are far too smart and nuanced a band to make bombastic stadium rock. But their signature sound is big and generous, expansive and warm-hearted. It's feel-good music, but with an edge that reflects the conflicted world in which we currently live. "We're not known as an angry band," Tom Russo points out. "But there's an amount of things clearly wrong in this world that permeates some of the songs. It was unavoidable with everything that's happening."

From the jagged jangle of *Tidal River* and the nervy guitar hooks of *Dive Deep* to the vaulting choruses of *Blue Eye Lake* via the propulsion of the anthemic *Vanishing Dots* and the buoyant glory of *Bounce Of The Bottom*, this is a set of sun-splashed earworms, with just a little angst on the side. It's a perfect diet as we look forward to better times. ***NW***

Picture credit: Nick Mckk

Belle & Sebastian

A Bit of Previous

★★★★½

CD **Matador**

SEVEN YEARS HAVE elapsed since the last studio album from Scotland's favourite pop portraitists. Yet the band has hardly been idle, with a series of EPs, a four-day music festival on a Mediterranean cruise liner, a live album and a collaborative lockdown project with fans, while frontman Stuart Murdoch has hosted a series of online meditation sessions. Now they return at full tilt with an album they had planned to make in the sunshine of LA, but were forced by the pandemic to record in

We get delirious synth, classic pop hedonism, euphoric funk and gentle balladry

rainy Glasgow. We get delirious synth moments (*Talk To Me Talk To Me*), classic pop hedonism (*Young And Stupid*), euphoric, quiet storm funk (*Working Boy In NYC*) and gentle balladry (*Do It For Your Country*) while the gorgeously upbeat *Come On Home* sounds like a cross between Macca and Brian Wilson. Although they've never really been away, it feels really good to have them back. ***NW***

Schubert

Winterreise
Benjamin Appl
James Baillieu

★★★★★

CD **Alpha Classics**

AUSTRIAN COMPOSER FRANZ Schubert's great song cycle receives a very intimate almost conversational performance from famed tenor Benjamin Appl. Rather than singing in a declamatory style (as if trying to fill a medium-sized hall) Appl scales down his performance and for the most part sings quietly and confidentially to the microphone. The result is very direct and personal – at times almost confessional – as though he were confiding his pain just for you. Meanwhile, pianist James Baillieu accompanies with taste and discretion while the recording sounds effortlessly clear, detailed, tonally open and very natural. ***JH***

Alex Cameron

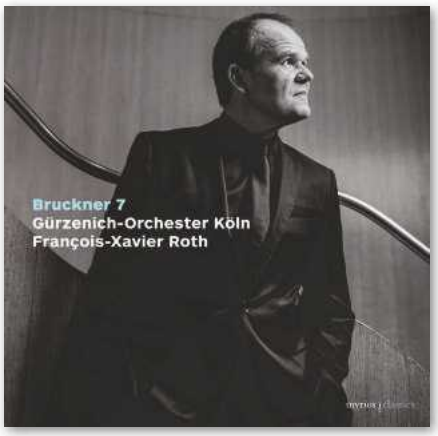
Oxy Music

HOT PICK

★★★★★

CD **Secretly Canadian**

A JOURNEY INTO the heart of pop, Aussie singer/songwriter Cameron gets himself stuck in the lift between 1982 and 1984 and it works perfectly. There are synths, digital drum patterns and delightful saxophone riffs while Cameron's voice sits somewhere between Phil Oakey and Joe Jackson. His songs never get too busy or frantic. *Breakdown* is a charmer full of break-up anxiety that suits its mid-tempo framing and conga fills. The pace picks up with a winning Phil Daniels/*Parklife* turn from Sleaford Mods' Jason Williamson on a title track full of vim. Its good stuff, plenty for Cameron to crow about. ***PSH***



Turn it up, it's quicker than most Bruckner 7s, but you'd never guess it

Bruckner

7
Gürzenich-Orchester Köln
François-Xavier Roth

HOT PICK

★★★★★

CD **Myrios**

MOST ACCOUNTS OF Anton Bruckner's best-known symphony tend to come in at somewhere around the 65 minute mark. And yet Francois-Xavier Roth manages to power through this take in just 56 minutes, without his performance sounding rushed or superficial in anyway. There's plenty of keen forward momentum but no real sense of haste; a sense of gravitas, with the faster tempi creating a mood of dramatic intensity but no loss of spiritual profundity. It's quite some trick. The orchestra playing is excellent and the recording is spacious and clear with a rich ambient depth. An increase in playback volume helps bring the sonic picture into focus. ***JH***

AUDIOFILE VINYL ★★★★★

Binker and Moses

Feeding The Machine

HOT PICK

180g vinyl **Gearbox**

THE DUO OF saxophonist Binker Golding and drummer Moses Boyd have been surfing the crest of the London jazz revival for some time, making some fiery, visceral albums on stage and in the studio since 2015. This is a studio album in the modern sense, whether it could be reproduced live depends on the skills of Max Luthert who provides tape loops and electronic effects and changes the Binker and Moses sound considerably. We still get slow-build, brooding intensity from both players, but the effect is disrupted by Luthert's input, sometimes in a subtle way but also to extremes.

Opener *Asynchronous Intervals* is of the former variety with extra reverb and echo but by the end of side one things are getting more interesting, with blips, burbles and a drone added to the mix. On *Feed Infinite* they become a trio, the electronica taking an equal share of the sound and bringing a coherence that's rather appealing. Finale *Because Because* is the highlight with John Surman-like multiple sax lines producing a mesmerising trance over visceral drums and effects. Gearbox's valve mastering ensures that the sound remains clean and smooth despite the power of the players. It's a great combination. ***JK***

Picture credit: Hollie Fernando (Belle & Sebastian)

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Tanika Charles

HOT PICK

Papillon de Nuit: The Night Butterfly

★★★★★

CD **Record Kicks**

THIS IS THE kind of beautifully constructed soul that cues up the light and heat of summer perfectly. This is Charles' third collection recorded in and around lockdown, but there's no sense of confinement in her sunny music. *Honey Baby* is a duet that comes off like a lost Marvin Gaye and Tammi Terrell cut – familiar yet fresh. The Canadian gets all late night with *Love Don't Mean A Thing*, a classy R&B smoothie with gentle horns and a soaring vocal. *Gin And Wine* might reactivate Lauryn Hill as soon as she clocks Charles taking over her turf. Hard to fault and easy to love, this might be just what your ears need right now. ***PSH***

This theatrical and edgy recording is impressive, but far from natural sounding

Bach

St. John Passion
Monteverdi Choir
English Baroque Soloists
John Eliot Gardiner

★★★★☆

2x CD & Blu-ray **Deutsche Grammophon**

RECORDED AT THE Sheldonian theatre Oxford, this is a dramatic and rather brusque account of Bach's *St John Passion*. Sir John Eliot Gardiner's two previous recordings of the work (for DG/Archiv and his own SDG label) were more thoughtful and spiritual than this new one, which is both theatrical and edgy. Its tactile directness grabs you by the throat, aided by a 'loud' forward in-your-face recording, which seems deliberately compressed to subjectively increase the sonic immediacy and impact of the sound. It's impressive, but not entirely natural. The two CDs are bundled with a Blu-ray Pure Audio disc boasting Dolby Atmos. ***JH***

Mahler

Symphony No.9
Berlin Philharmonic Orchestra
Bernard Haitink

★★★★☆

Download/stream **Berliner Philharmoniker**

BERNARD HAITINK'S PROJECTED complete Mahler cycle for Philips with the Berlin Philharmonic Orchestra was sadly abandoned in the late Nineties, leaving *Symphonies 8* and *9* unrecorded. So it's very welcome to have this live Berlin account of the *9th Symphony* from 2017 available. It's a broad heartfelt performance lasting 89 minutes – a full ten minutes longer than Haitink's 2012 live version with the Bavarian RSO. The fabled Berliner tone is glowing and wonderfully rich, yet the playing remains pithy and concentrated. The recording is spacious and true, with natural perspectives and a wide dynamic range ***JH***

Calexico

El Mirador

★★★★☆

CD **City Slang**

JOEY BURNS AND John Convertino return with another record stuffed with desert-swept, kaleidoscopic blues-rock and Latin American inflexions. Unlike their recent releases, *El Mirador* is a lot more straight along the line. Not MOR exactly, but certainly the most accessible the duo has been for a while. Songs are not as menacing, sparse or noirish compared with previous releases and there are actual sung songs and an increase in Latina lyrics and sounds, which give these 12 tracks a buoyancy and bounce. None more so than the positively perky *El Burro Song*. Not the group's best, but still a fine, fun record. ***PH***

COOL COLLECTION

With her Reunion tour of the UK just announced for the summer – her first gigs here since 2018 – what better way to catch up with Californian critics' darling Phoebe Bridgers to see which albums have recently been floating her boat?

Waxahatchee

Saint Cloud
Merge (2020)
Waxahatchee is helmed by Birmingham, Alabama's Katie Crutchfield. "I saw Waxahatchee at Coachella" enthuses Bridgers whose favourite track is the opener, *Oxbow*: "When they performed, I made sure to get all the way to the front. She had cool green hair at the time. The lyrics –'Depressing by design/A speck in the oxbow/Depressing by design/If I go along with it, am I lying to you?' It's like: 'What?' I can't even find words..."

Hop Along

Bark Your Head Off, Dog
Saddle Creek (2018)
This is the fourth long player released by the Philadelphian indie band fronted by artist Frances Quinlan. Bridgers favourite track is *How Simple*: "This song was on our playlist on tour, so I could sing every word of it. This whole record is amazing. Frances' voice is insane; I love how it's so punk rock and sweet. And then,of course, there are the words, like: 'Don't worry we'll both find out, just not together.'"

Sinéad O'Connor

I Do Not Want What I Haven't Got
Ensign (1990)
Bridgers was initially drawn to *Black Boys On Mopeds*, a song about the death of a 21-year-old black man who was shot in a police station – which the authorities tried to pass off as suicide. "I was in the car with Conor [Oberst of Bright Eyes] the first time I heard it. At the time, we were just getting to know each other so I pretended to have heard the song already. I was trying to be cool, you know, but this song just destroyed me."

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Mozart

Complete Piano Sonatas
Elisabeth Leonskaja

★★★★★

6x CD **Warner Classics**

ACCORDING TO AUSTRIAN pianist Artur Schnabel (1882-1951), Mozart's piano sonatas were too easy for children – too difficult for artists. Elisabeth Leonskaja has recorded very little Mozart previously, but these new performances (taped over a mere ten days) are effortlessly unselfconscious, idiomatic and cleanly played without anything in the way of affectations. The technique is smooth and even; everything sounds focused, but relaxed and natural at the same time. Her

Warner's recordings are clear, but not too close, unexaggerated yet truthful

playing is sensitive, often beautiful, but never dainty or overly precious in any way. She is generous with repeats – exposition and development – and the performances give great pleasure. Warner's recordings are smooth, warm, and nicely focused; clear, but not to close. The sound is unexaggerated yet truthful – just like the playing. ***JH***

Roger Eno

The Turning Year

HOT PICK

★★★★★

CD **Deutsche Grammophon**

THE CULT BRITISH composer's second album for DG should be available in pill form, such is its wonderfully calming influence. Each track sounds deceptively minimal, but their emotional depth is maximal. Pianist Eno is joined by string ensemble Scoring Berlin on some compositions – including the beautiful *A Place We Once Walked* and *On The Horizon*. It's an inspired collaboration, for sure. Exquisitely recorded and an immersive headphone-listen, the album's happy-sad nostalgic mood is almost tangible. It's one to spin on repeat – and fans of Virginia Astley, Mark Hollis and Erik Satie will no doubt find plenty to luxuriate in. ***SB***

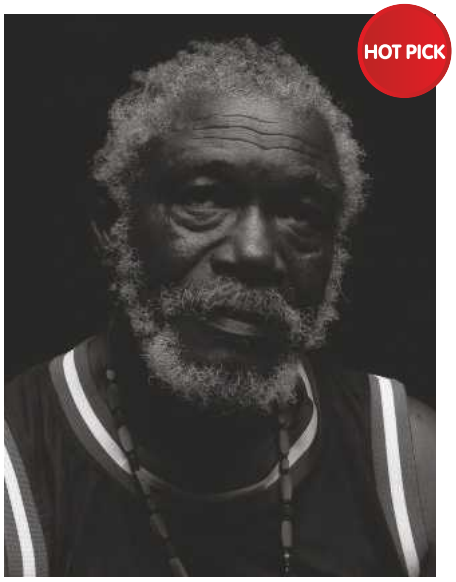
Vivaldi/Verdi

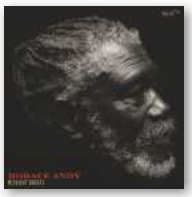
The Four Seasons
I Musici
Marco Fiorini

★★★★★

CD **Decca**

IF ANY ORCHESTRA could legitimately lay claim to Vivaldi's *Four Seasons*, it has to be I Musici. They first recorded the piece in 1955, when it was still relatively unknown, then made five subsequent recordings – the last in 1995. This latest version – recorded for Decca – has I Musici's signature sound: rich, warm and brilliant. It's a very *Italianate* version – euphonic and radiant, rather than lean and acerbic. There are no period instrument squeals here! The coupling is Verdi's *Four Seasons* ballet from *I Vespri Siciliani* – arranged for piano and strings. Decca's recording is crisp and brilliant, with excellent clarity and depth. ***JH***





Horace Andy

Midnight Rocker

★★★★★

CD **On-U Sound**

THE LEGENDARY JAMAICAN singer and long-time Massive Attack collaborator makes a welcome return with this mix of covers (*Safe From Harm* and *Materialist*), dub reworkings of Andy originals (*Must Be Hell*) and newbies (*Watch Over Them* and *Try Love*), assisted by Adrian Sherwood on production duties. Over the years, Andy's distinctive *Skylarking*-era falsetto has matured into a far richer and warmer tenor that's perfectly matched here by Sherwood's clean production that eschews the degraded dub studio sound of old without getting too slick. Stunning. ***JDW***

Kae Tempest

The Line Is A Curve

★★★★☆

CD **Fiction**

TEMPEST'S RHYMES MAY be delivered in the staccato cadences of rap, but the beats are not confined to the conventions of hip-hop. *Priority Boredom* sees the rhymes over an expansive Vangelis-like soundtrack. *No Prizes* is a piano ballad sharing the spotlight with a sultry Lianne La Havas. Grian Chatten of Fontaines DC duets on the minimalist *I Saw Light* and *Grace* is recited over a hushed acoustic guitar. Only on *More Pressure*, a duet with US rapper Kevin Abstract does Tempest get close to traditional hip-hop. The mix of poetry, rap and musical invention is smart, sharp and endlessly stimulating. ***NW***

Kurt Vile

(watch my moves)

HOT PICK

★★★★★

CD **Verve Records**

THE PSYCHEDELIC FOLK troubadour returns with another woozy, gauzy odyssey with all his beguiling trademarks present and correct – that laconic drawl, the dextrous flashes of multi-instrumentalism and those sweet melodies. Listening to Kurt Vile is the aural equivalent of a soft summer breeze rippling through a cornfield on a hot day. And there are plenty of moments that provide these sensations with *Mount Airy Hill*, Springsteen cover *Wages Of Sin* and the gorgeous closer *Stuffed Leopard*. As ever, Vile has his collaborators (most notably Cate Le Bon and various members of Chastity Belt) and as ever, he's produced another winner. ***PH***

Picture credits: Michael Moodie (Horace Andy) and Justen Williams (Trombone Shorty)

Rothwell

Phonostage & step-up transformer specialists for over 30 years

The first phonostage from Rothwell was unveiled back in 1990. In those days even the concept of an outboard phonostage was unknown to most audiophiles, though of course it's commonplace now. There were very few, if any, on the market then, and the first Rothwell phonostage was well ahead of its time. It was a valve design with a separate and substantial power supply, and it had adjustable load resistance and capacitance – ideas which were adopted only years later by others. 30 years on, Rothwell phonostages are still different from the many me-too offerings. All the designs, from entry-level to the top-of-the-range, are totally discrete transistor circuits without any op-amps at all, and they're all still made in the UK.
The Signature One even features onboard step-up transformers, which is pretty rare amongst even the most expensive phonostages in the world.

And step-up transformers for low output moving coil cartridges have been a speciality for over 30 years too. When the world seemed to have turned its back on the transformer, we kept the faith. Now many vinyl afficionados believe that a good step-up transformer is the only way to get the best performance from a LOMC cartridge. If you don't agree, we even make a moving coil headamp (aka a pre-preamp) which can be battery or mains powered. You won't find many of those anywhere else in the world. We even offer step-up transformer for high output moving coil cartridges. You won't find many of those anywhere else either.

www.rothwellaudioproducts.co.uk

Thanks to Doug Brady Hi-fi for their continuing support and for the use of their dem room featured in the picture.

Little North
Familiar Places

★★★★☆

CD **April Records**

IT'S ALMOST IMPOSSIBLE to listen to a Nordic piano trio without inadvertently picturing EST playing, and in the case of Little North that sense is doubled. But that's not necessarily such a bad thing as EST put Scandi jazz firmly on the map and few have managed to produce their spirit quite as well as *Familiar Places* does. The trio is joined by trumpet on the opener, but it's Viktor Spasov's guitar that enhances most of the tunes alongside Benjamin Nørholm Jacobsen's keyboard. His deft left hand keeps things rolling beautifully and the rhythm section is deliciously tight but loose, especially on the laid back *Ind i det Azurblå*. ***JK***

Shostakovich
Symphony No.7
London Symphony Orchestra
Gianandrea Noseda

★★★★☆

SACD **LSO Live**

THIS RELEASE OF Russian pianist and composer Dmitri Shostakovich's great wartime symphony feels highly apposite given current events. Gianadrea Noseda takes a grim serious view of the work, emphasising its mood of profound sadness and pity at the horrors of conflict. The two inner movements offer moments of great pathos while the finale emerges as more tragedy than a triumphant celebration of victory. The live recording is clean and well balanced, sounding very fine (though not exceptional) in SACD format. Detail is good, but the sound could have a tad more depth and greater internal separation. ***JH***

Trombone Shorty
Lifted

HOT PICK

★★★★★

CD **Domino**

FANS OF *TREME* might recognise the New Orlean's funkster from guest appearances on the HBO drama. Or you might just know him because the music is so damn good. The first album in five years is played and sung to perfection. *Everybody In The World* opens as if Duke Ellington has taken control of the brass before Shorty's gritty groove kicks in. *Come Back* sounds like the theme to a Seventies cop show before easing into an ear worm. With this LP you get funk, gospel jazz, soul, hip-hop and Mardi Gras chants, but best of all you get Trombone Shorty blowing clear and loud. ***PSH***

Homage Á Horowitz
Maxim Bernard

★★★☆☆

CD **Pentatone**

IN APRIL 1986, 82 year old Ukrainian pianist Vladimir Horowitz returned to Russia after 61 years to give a recital in Moscow. The event was issued on video and CD/LP – though the latter did not include everything performed. Maxim Bernard recreates the entire concert lasting 77 minutes. Wisely, he does not try to ape Horowitz's unique inimitable style. His playing is polished, but lacks point and individuality. Alas, at the end, one wonders – why? What's the point? Just listen to the original Horowitz recording! Clear well-balanced piano sound. ***JH***

Whatever The Weather
-36°

★★★★☆

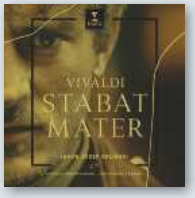
CD **Ghostly International**

OVER THREE EXCELLENT albums, Loraine James has forged a name for herself in the crucible of urban soul, wonky grime and introspective hip-hop. However, here there's a change of pace. Over these gently lilting tracks her keyboard improvisations, stuttering spiky beats and vocal experimentation shape atmosphere, mood and tone. And, as her pseudonym and album title suggests, there's a very definite weather inspiration in play with tracks named after different temperatures. It's a solid, sometimes lovely listen, adding another string to the bow of one of the country's more innovative and interesting musical artists. ***PH***

STREAMING CHARTS

qobuz.com's top-10 most popular streaming albums

1 Fleetwood Mac
Rumours



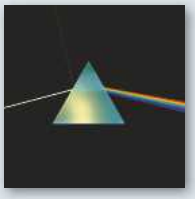
2 Jakub Józef Orliński
Vivaldi: Stabat Mater

3 Neil Young
Harvest

4 Brad Mehldau
Jacob's Ladder

5 The Beatles
Abbey Road (Super Deluxe Edition)

6 Daft Punk
Random Access Memories



7 Pink Floyd
The Dark Side Of The Moon (2011 Remastered Version)

8 Tears For Fears
The Tipping Point

9 The Mysterines
Reeling

10 Son House
Forever On My Mind

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A RECORDING TECHNOLOGY SHOWDOWN

What's the best way to record music? Half-speed mastering? 33 or 45rpm? Analogue or digital? Mike Valentine has produced an audiophile recording that allows you to decide for yourself. ***Neville Roberts*** attends the session

People often ask Mike Valentine, the man behind the Chasing The Dragon audiophile label, the best way to record music and the differences between techniques. He's asked so often, in fact, that he decided to produce a recording that explores different approaches to allow people to decide for themselves.

He decided to use a relatively popular piece for the main work – Mendelssohn's *Octet*. A short 'encore' piece entitled *Two Guitars* is also selected. The venue chosen was the Henry Wood Hall in the Southwark district of London and the date is 5 February 2022.

Mendelssohn wrote his *Octet* in 1825 at the age of 16, and many commentators have asserted that no other composer has written such a major piece at such a young age. The *Octet* consists of four movements: an exhilarating Allegro, an Andante, the famous Scherzo and a fast-paced Presto.

In order to facilitate comparison of a variety of recording techniques, *Two Guitars* by Ivan Vasiliev, arranged for the string octet by David Ogden is chosen as an encore piece. It starts slowly and develops into an exhilarating and exuberant climax.

The musicians

The Locrian Ensemble is tasked with playing, comprising eight of the finest musicians in the UK all of whom are soloists in their own right. Jack Liebeck plays first violin. Liebeck's instrument is a Guarneri model produced by Joseph Curtin in the USA in 2021. Its sound is focused deep and powerful, but retains a warm quality throughout the registers.

Simon Blendis (second violin) plays a violin by Master Luthier Edgar Russ in Cremona, the 2015 'Edith Steinbauer' Stradivarius. Alexandra Raikhlina (third violin) plays a 2019 Guarneri del Gesù violin by Spanish maker Gonzalo Bayolo. This violin achieves a rare balance of power and warmth. With his colleague Pedro Silva, Ariel Lang (fourth violin) is the co-founder of MyLuthier, an organisation devoted to promoting modern stringed instruments. Lang's violin is an Alessandro Di Matteo from Cremona in 2010.

Playing first viola, Sarah-Jane Bradley's instrument was made by Master Luthier Bonten in France in 2019. It has a beautiful tone and excellent projection of the sound.

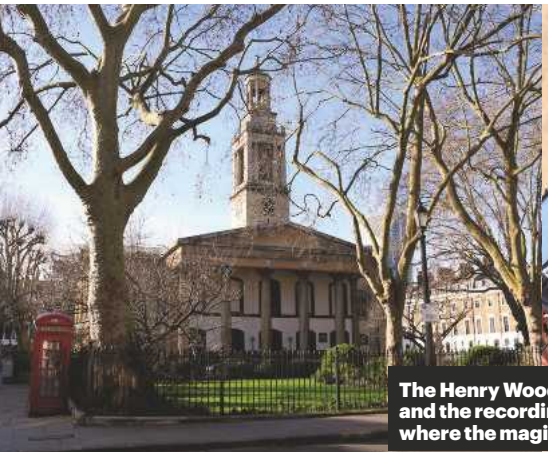
Matthew Jones (second viola) plays a Paolo Vettori Viola that was made in Florence in 2020 from 200-year-old wood that has seasoned and aged beautifully, taken from a building in Florence. Justin Pearson (first cello) plays on a 2020 Stefano Marzi cello produced in Florence.

The aforementioned Pedro Silva (second cello) founded MyLuthier with his colleague Ariel Lang in 2017. Silva now splits his time between this business and performing. Silva's cello was made by Francesco Toto in his Cremona workshop during 2017. The varnish has a rich golden colour and the tasteful and refined choice of wood produces an incredible depth of sound.

The instruments

It is considered that we currently live in the golden age of stringed instrument making, and consequently all of those that are used in this recording have been produced within the last 12 years.

Vintage instruments often command high prices as a result of their well-earned reputation for the sound they produce. However, modern high-quality alternatives made to the same patterns as the older instruments can now benefit from new materials, such as modern glue and varnish,



The Henry Wood Hall (left) and the recording consoles where the magic is captured

Jack Liebeck (right) plays first violin on his 2021 Guarneri from the US

and from state-of-the-art techniques that accurately measure their sonic character. Combining these modern materials and techniques with traditional approaches, developed over the centuries – by the likes of Antonio Stradivari and Bartolomeo Guarneri of Cremona – has resulted in instruments that can rival or even out-perform their vintage equivalents – and sell for a fraction of the price of, say, an original Stradivarius made at the turn of the 18th century.

The venue

The Henry Wood Hall is an orchestral rehearsal and recording studio in Trinity Church Square, Southwark, London. It is London's first purpose-built home for orchestral rehearsals and is named after the conductor Sir Henry Wood.

Since 1975, the Henry Wood Hall has been the scene of constant musical activity. Besides rehearsals for all of the leading London orchestras and chamber groups, there has been constant recording activity covering all types of music in the classical repertoire, from solo pianists to full-scale grand opera. Highly acclaimed orchestras like the St Petersburg Philharmonic have recorded here, and the Japan Philharmonic has rehearsed at this venue, along with many others. The list of famous singers and instrumentalists who have recorded here include almost all the great names of the second half of the 20th century.

The setup

Eight microphones are used in different configurations so that the same performance can be recorded in different ways:

- Two AKG/Flea C12 valve microphones set with an omnidirectional polar pattern are positioned as a spaced pair with a Jecklin disk (a sheepskin-covered disk used to enhance the stereo image when used with omnidirectional microphones) placed between them.
- Two AKG/Flea C12 valve microphones are positioned as a Blumlein pair below the other pair of C12s and set with a 'figure-of-eight' polar pattern with one pointing upwards and the other downwards so that the capsules are positioned as close as possible to each other.
- Two DPA (Danish Pro Audio) 4006A omnidirectional transistor microphones are positioned as a spaced pair next to the C12s.
- A Neumann KU-100 dummy head is placed just below the C12s to produce a binaural recording, which will sound particularly good on headphones.

For the Blumlein pair, the microphones are positioned at 90° to each other. Ideally, the transducers in the capsules should occupy the same physical space, but since this cannot be achieved, the microphone capsules are placed as physically close to each other as possible, with one centred directly above the other.

The recording session

The original master recordings are made in analogue on a Studer A820 tape recorder using ½in audio tape running at 30IPS with no noise reduction systems. The recordings are made onto ½in ATR professional tape with a fluxivity (the strength at which the record head prints the signal onto the magnetic tape) of 540nWb/m, which is about twice as strong as the fluxivity used in the Sixties and Seventies. This higher level of recording greatly improves the signal-to-noise ratio and is only now possible because of modern tape formulations.

Digital versions are made in DSD128 on a Tascam DSD two-channel recorder and in PCM digital format at 24-bit/192kHz on a Nagra VI 6-channel recorder.

The mastering

The mastering onto LP lacquers is performed the following week at Air Studios in London on a Neumann VMS 80 cutting lathe. The LPs are cut as follows:

- Record 1, side A – *Octet* Movement 1 at 33rpm using the C12 spaced pair microphones and Jecklin disk.
- Record 1, side B – *Octet* Movements 2 and 3 at 33rpm, mastered at half-speed, using the C12 spaced pair microphones and Jecklin disk.
- Record 2, side A – *Octet* Movement 4 and *Two Guitars* at 45rpm using the C12 spaced pair microphones and Jecklin disk.
- Record 2, side B – *Two Guitars* at 45rpm using: C12 spaced pair microphones and the Jecklin disk from a 24-bit/192kHz digital master; C12 spaced pair microphones and the Jecklin disk from the analogue master; DPA Spaced pair and a Jecklin disk from a 24/192 digital master; C12 Blumlein pair from a 24/192 digital master; and Binaural dummy head from a 24/192 digital master.

In addition to cutting the masters at normal speed, half-speed mastering is used for the second side of Record 1. The procedure requires the source master and the cutting lathe to run at half speed on the specially adapted Neumann VMS-80 lathe at Air Studios. This process is intended to convert the high-end frequencies into relatively easy to cut midrange frequencies to produce a cut with excellent high-frequency response and very solid and stable stereo images.

The double LP will be available to purchase in the early summer of 2022 as a special boxed set with a 32-page detailed information booklet and a book on the composer at a cost of around £185. Also, the album is now available as a copy-master analogue ¼in tape at 15IPS for £360, and also as a CD and digital downloads for £30 ●

THE RECORDING QUALITY

Having enjoyed the experience of listening on headphones to the recording and then removing them to be able to hear the music live, I can honestly say the quality of the recording is incredible. Apart from the physical feel of the headphones when I am wearing them, I often can't tell if I am listening to the recording or the live performance. If you wish to see a video of the recording session, Chasing The Dragon has put a 23-second clip on its Youtube channel at: youtube.com/watch?v=PuU6IVYHZJ4.

However, the question you'll doubtless be asking is: which of the recording techniques sounds the best? I have a view, but in the interests of impartiality, I'm not going to say anything here. Instead, we will be interested to hear your thoughts and, to assist with this, Chasing The Dragon has made available two 1 minute 15 second extracts of the *Two Guitars* digital recordings, which you can find at: rssconsultancy.co.uk/files/ChasingTheDragon/Test-Sample-C12-DPA.wav. The file contains the two sound clips at 16-bit/44.1kHz (CD quality) of the identical performance. The first is from the two AKG/Flea C12 valve microphones positioned as a spaced pair and the second is from the two DPA 4006A omnidirectional transistor microphones positioned as a spaced pair.

There's certainly a noticeable difference between the two sound clips. I know which I prefer, but what about you? Email us at letters@hifichoice.co.uk, or write to us at the address shown on the *Letters* page (p75) and give us your verdict. Also, let us know if you listened to the file on earphones, headphones or loudspeakers. Of course, if you also want to compare the different microphone configurations – analogue, digital, 33rpm, half-speed mastered 33rpm and 45rpm you'll need to get the album!

DESTINATION: OXFORD

Simon Berkovitch, takes a punt on Riverman Records – a haven for classics of all kinds

To paraphrase Nick Drake – from whom this exquisitely curated record shop takes its name – "We've gone to see the Riverman, hoping he's going to tell us all he knows…" Meet Riverman Records' owner Andy Tucker, a man with 15 years of running record shops under his belt. "I've always been a musical obsessive," he admits. He was in punk bands in the late-Seventies and ran cult Cardiff label Z Block: "but then life got in the way, and I ended up with a proper job," he says.

Fast forward to 2007: "I was made redundant, got a decent pay off, and decided to take a year out. I volunteered at my local Oxfam, which was a dedicated music shop, and the idea that running a record shop might be viable slowly began to take shape." Andy was living in London, but ready to embark on a new adventure. "Trawling online listings, I noticed a record shop for sale in Henley-on-Thames [Henley Records, subsequently renamed The Groove]. I went to see it, agreed terms with the owner, and kicked off my new career. I had that shop for five years, before moving to a larger one in Henley for another seven years. When the lease was coming to an end, I had to decide if I wanted to renew or try somewhere else."

Henley-on-Thames' loss is Oxford's gain. "Oxford had always been appealing," admits Andy. "It's a large university city, but it really had only one record shop, Truck. I managed to find an empty shop for rent and began the process of moving thousands of records, fixtures and fittings."

From Henley-on-Thames to Oxford, meet Riverman's Andy

Riverman Records opened in late 2019. You'll find the store just a short stroll from the railway station towards Jericho. Appropriately enough for the shop's name, the Thames, Castle Mill Stream and Oxford Canal are all close by. "I decided I'd try and make the link more obvious by using the Island font, and pink colour and pinching their old eyeball logo. In truth, only a small number of people pick up on the link."

Room with a brew

Inside, it's a study in restrained taste and the kind of layout that comes with years in the business – in short, it looks great and the light and open space works well. There's plenty of room to browse the custom racks. Enticing rarities hang on the walls – also a canvas for books, DVDs, cult Sixties ephemera and a striking homage to Miles Davis' groundbreaking *Bitches Brew*.

Riverman currently has 10,000 LPs and 5,000 45s in stock, of which around 95 percent are used. Pretty much every genre is covered. You'll find rock and pop records from all eras in the racks, as well as metal, punk and indie, blues, jazz, soul and funk, reggae, dance, hip-hop, world music, soundtracks and more. If it's decent, there's a strong possibility that Riverman will have it. "Experience tells me that while some people have tastes which might cross over a couple of different genres, very few will actually buy a Black Sabbath album and Thelonious Monk album – and I salute those who do."

"The shift in customer demographic following the move has been interesting," Andy adds. "I was expecting to have a younger bunch of folk browsing, as Oxford has such a large student population – and this has proved to be the case. The most satisfying difference has been the dramatic increase in the number of young women customers. The myth that all record collectors are crusty old geezers has long needed to be challenged and it's been a delight to see this shift." He still has a loyal bunch of regulars too: "many of whom followed me from Henley to Oxford".

Although plenty of rarities flow through the racks and wall-space of Riverman, some

Custom-built racks and a spacious layout make for relaxed browsing

heavy hitters leap out. "Until recently, the rarest record I'd had was an Elvis Presley 78, *A Mess Of Blues*, from 1960. It was his last single issued in that format, at a time when the 45 had pretty much taken over. It sold in tiny amounts and so is still sought after today." While the rock and roll era recedes ever further into the rear-view mirror, there's still appetite for hen's teeth releases. "With Elvis and his contemporaries, while most of their releases, even the slightly rarer stuff, has seen values plummet over recent years, the market for really rare stuff is still quite buoyant," Andy says. "It's also something I

"I stopped doing RSD because I felt there was a decline in quality of titles being released"

suspect will be true of The Beatles and Stones era too as time goes on," he adds.

Rather than bullying you into purchasing the latest limited, highest-possible-recommendation must-have, Riverman's website eschews visual chaos and takes a laid-back approach. "I have no interest in developing an online store – that seems to defeat the purpose of running a record shop." he admits. "Just before the first lockdown I bought a huge collection of Sixties and Seventies music papers, so I was able to spend time while the shutters were down listing those on Ebay. The last batch sold last week, so no more of that for me."

Twitter is the only social media Andy uses. "I've connected with lots of regulars and locals through Twitter," he says. It's a useful tool: "I use it to highlight incoming collections, which then spurs followers to come and browse." Look out for Riverman's entertaining record of the day posts. "The website and Twitter have been useful in communicating the various Covid-related restrictions I've put in place, and I'm glad to say almost everyone has been supportive of the mask-wearing, hand sanitising policy I adopted," Andy says. "These are now being gradually relaxed, but I still wear a mask."

Ditching RSD

Andy participated in Record Store Day for 10 years at Henley, but it's another aspect of business that was jettisoned in the move. His reasons for doing so make for interesting reading: "I genuinely think it played an important role in keeping shops like mine open, and facilitating the vinyl revival that we've all seen over the last decade or so. When I moved, I decided to stop participating. Firstly, because Truck, the other Oxford record shop, has it well covered but also because I wasn't comfortable in what I felt was a decline in quality of titles being released. At a time when vinyl production cannot meet demand, it didn't seem right to support yet another colour variant of an easily available album, or novelty releases that have zero aesthetic or cultural value. I think that ERA, the group behind Record Store Day, needs to have a re-think of exactly what it is trying to achieve."

Whatever happens next, Riverman aims to be a fixture in the city for some time – an institution to be mentioned in the same breath as bikes and dreaming spires. "I have three years left on my lease and hope to renew for another five after that, which will take me to 2030," Andy explains. "I can't imagine wanting to do anything other than running a record shop" ●

CONTACT DETAILS

Riverman Records
153 Walton Street, Oxford, OX1 2HD
Website: rivermanrecords.co.uk
Twitter: @rivermanrecords
Phone: 01865 553577

SHOPPING LIST

Eight classics to float your boat: favourites in the racks at Oxford's Riverman Records, selected by owner Andy

David Bowie
The Rise And Fall Of Ziggy Stardust And The Spiders From Mars
"The first LP that I ever bought. It sounded like the future back in 1972. And incredibly it still does now. An absolutely essential item."

Otis Redding
Otis Blue/Otis Redding Sings Soul
"This may be the definitive Sixties soul album. *Respect*, *A Change Is Gonna Come* and one of those 'the cover is better than the original' in the shape of *Satisfaction*."

Nirvana
MTV Unplugged In New York
"The stripped-down beauty of the performances and Kurt Cobain's vulnerability and intensity show that Nirvana were always more than just a grunge act."

Talking Heads
Fear Of Music
"The second collaboration between Brian Eno and David Byrne. English art rock meets New York art punk – with African and disco influences mixed in for good measure."

Bob Marley And The Wailers
Catch A Fire
"The sound of this album is so thick and full, you seem to have to push your way through the smoke to reveal the righteous anger, joy and irresistible rhythms within."

Neu!
Neu!
"One of the most influential Krautrock albums. Klaus Dinger's drum sound and famous motorik beat echoes through Seventies disco, Eighties synth pop and Nineties dance music."

John Coltrane
Giant Steps
"Another jazz album, like Miles' *Kind Of Blue*, to play for people who think they don't like jazz. It may be more than 60 years old, but it still sounds vibrant and exciting."

Nick Drake
Five Leaves Left
"The definitive sound of the early-Seventies UK folk-rock scene and featuring the track that the shop takes its name from. It's an absolutely perfect LP in every way."

MASTER OF BRUTALITY

Nigel Williamson makes the devil's horns in homage to the Brummies who invented heavy metal and conquered the world

It's easy to argue endlessly over who 'invented' heavy metal. Some will claim it was Cream. Others will say Led Zeppelin. Esoteric rock nerds will probably tell you the first heavy metal album was Jeff Beck's *Truth* or Blue Cheer's *Vincebus Eruptum*. But let's cut to the chase. The starting point of metal and its head-banging sub-genres from doom to thrash can be dated to Black Sabbath's debut in 1970.

With their sludgy riffs and proletarian credentials, Sabbath did not make prissy art-school music like Genesis or symphonic epics like ELP. Their music was a world away from middle-class hippie prog-rock pretension.

Their music came from the bleak urban wastelands of Sixties Britain. As Geezer Butler, Sabbath's bassist noted: "We were four working class people in the most industrial part of England and all we had to look forward to was a job working in a factory. We felt hopeless and constantly frustrated."

Disillusionment rather than new age optimism was the currency of Sabbath's songs, epitomised nowhere better than in the title track of *Paranoid*, the band's second album of 1970. Based on a riff by guitarist Tony Iommi and with doom-laden lyrics by Butler sung in demented fashion by Ozzy Osbourne, the song became a top-five single and led to the sight of Sabbath on *Top Of The Pops* on a bill including Cliff Richard and Engelbert Humperdinck.

In that moment, heavy metal became a popular cultural phenomenon. "*Paranoid* is important because it's the blueprint for metal," Judas Priest frontman Rob Halford wrote in the liner notes when the album was reissued in 2016. "It led the world into a new sound."

From Iron Maiden, Metallica and Guns N'Roses to Nirvana, Megadeth and Foo Fighters, every metal band who followed with the dial turned up to 11 owed something to Sabbath's pulverising noise.

Paranoid was number one in Britain and 12 in the US, catapulting the band to global stardom

Some were louder, others more outrageous. But despite numerous personnel changes, busts ups and general chaos along the way, Black Sabbath remained both the darkest star and the brightest supernova in the heavy metal universe all the way to the band's final farewell tour almost half a century after their debut.

Along the way, MTV voted them the greatest metal band of all time as *Rolling Stone* dubbed them: "the Beatles of heavy metal". Whatever the arguments about who invented the genre, in the words of Metallica's Lars Ulrich: "Black Sabbath is and always will be synonymous with heavy metal".

Heaven and hell

The band had its roots in Birmingham in 1968 when singer Ozzy Osbourne placed an ad in a music shop saying: "OZZY ZIG Needs Gig – has own PA". Guitarist Tony Iommi and drummer Bill Ward, whose band Mythology had just broken up, responded and with the addition of bassist Geezer Butler, who had previously played with Osbourne in local band Rare Breed, they became the Polka Tulk Blues Band.

The lineup also included a slide guitarist and sax player who were soon dropped and the band became Earth. There was an early threat when Iommi left to join Jethro Tull. Yet within a month he was back, complaining he hadn't liked their dictatorial attitude.

The Sabbath name was adopted in 1969 when a cinema across the street from their rehearsal room showed the 1963 Boris Karloff horror flick *Black Sabbath*. It inspired Butler and Osbourne to write lyrics for a song called *Black Sabbath*. Dark and ominous, when the band, which now had the same name, came to record the track they added a tolling bell and the sound of thunder and driving rain. There was nothing else like it at the time and Judas Priest frontman Rob Halford later called it: "probably the most evil song ever written".

In short, Black Sabbath, at almost their first attempt, had hit upon what every band needs – a Unique Selling Point. Marrying the schlock of cheap horror films to hard driving blue-rock riffs, metal's enduring flirtation with Satanism, the occult and black magic had begun.

After unveiling the song and three others in a radio session for John Peel, Sabbath's debut album was recorded in 1969 under Rodger Bain, staff producer at the Phillips label's newly formed prog-rock imprint Vertigo.

It took just 12 hours to record and was done and dusted in time to: "get to the pub for last orders". Yet despite the haste, the album was a full-on metal classic.

ALBUM BY ALBUM

1970

BLACK SABBATH

A rip-snorting debut recorded in just 12 hours and which created the template for heavy metal. The title cut, *The Wizard* and the Lucifer-invoking *NIB* remain all-time classics of the genre.

1970

PARANOID

The title track gave them a top-five single, the album became a UK chart-topper and in 2017 was ranked by *Rolling Stone* as number one in its definitive list of the 100 Greatest Metal Albums.

1971

MASTER OF REALITY

More bludgeoning riffs from Iommi and frenzied yelping from Ozzie on another brilliant set, the highlights of which are *Children Of The Grave*, *Into The Void* and the stoner anthem *Sweet Leaf*.

1972

VOL. 4

Their first album to be self-produced, recorded in America and made under the influence of cocaine – the band wanted to call it *Snowblind* but a nervous record label vetoed the idea.

1973

SABBATH BLOODY SABBATH

Adding synths, strings and keyboards created a more polished feel without any let up in the bludgeoning. Ozzy didn't like it and demanded they go: "back to basics".

Picture credit: Shutterstock.com/Zamirznuti Tonovi

1975

SABOTAGE

An aggressive and punchy set of classic metal. Despite the presence of the English Chamber Choir on the track *Supertzar*, the brutal *Symptom Of The Universe* could have come from the first or second album.

1976

TECHNICAL ECSTASY

The patchiest album in the band's first incarnation with an increasingly unstable Ozzy out of sympathy with the more experimental approach of Iommi, who really wanted to make a more grown-up and radio-friendly record.

1978

NEVER SAY DIE!

The last studio album with Osbourne – and it would be another 35 years before the next one. The title was meant to imply a defiant two fingers raised at the punk hordes, but Sabbath had never sounded so lethargic.

1980

HEAVEN AND HELL

The first album without Ozzy found Sabbath sounding revitalised. Iommi came up with some of his best riffs since *Sabbath Bloody Sabbath*, but it was Ronnie James Dio's vocals that really gave them a new lease of life.

1981

MOB RULES

The second album with Dio on vocal duties continued where *Heaven And Hell* left off and his theatrical songwriting brought something new to the table – but sadly a falling out with Iommi meant he would be gone by the next album.

The band's sound and what made Sabbath different from other heavy blues-rock bands came about by accident. When he was 17, Iommi had severed the tips of the middle fingers on his right hand while working in a sheet metal factory. He played the guitar left-handed and the damage to his hand made fretting difficult. The solution was a pair of false fingertips fashioned from a plastic detergent bottle and detuning the strings to make it easier for him to bend them.

It created a gargantuan, distorted wall of noise and Butler followed suit on the bass. "Back then the bass player was supposed to do all these melodic runs, but I didn't know how to do that because I'd been a guitarist, so all I did was follow Tony's riffs," he said. "That made the sound even heavier."

On its release in 1970 Sabbath's debut album rose to number eight in the UK charts. Within months they were back in the studio recording *Paranoid*. This time the album took six days, with Osbourne complaining it took so long.

There was no grand concept, just a brilliant bunch of songs that had mostly emerged from improvised jamming on stage during the tour that had followed the release of their debut. There were plenty of lyrical references to the hippie zeitgeist, from the quest for personal freedom ("I need someone to show me the things in life that I can't find") and drug culture allusions ("smokin' and trippin' is all that you do") to the apocalyptic Vietnam-inspired *War Pigs* ("Generals gathered in their masses just like witches at black masses") and the visions of nuclear Armageddon in *Electric Funeral*.

Osbourne embarked on a bizarre solo career that saw him arrested for urinating on the Alamo

But the music was dark and sinister and could not have sounded further removed from the amiable stylings of Crosby, Stills and Nash and the hippie troubadours of Laurel Canyon.

Paranoid went to number one in Britain and number 12 in the US, catapulting Black Sabbath to global stardom and everything that went with it, from drug and alcohol excess to groupies, legal wrangles and every other manifestation of rock and roll madness.

A trio of brilliant, blazing albums followed with *Masters Of Reality* (1971), *Vol 4* (1972) and *Sabbath Bloody Sabbath* (1973). It was a staggering run that defined heavy metal. Anthrax's Ian Scott said his five favourite albums were the first five Sabbath LPs.

Yet ironically it was not the drink and drug abuse that derailed Sabbath, but a decision to change management, resulting in early 1974 with Osbourne being handed a writ from their former manager on stage during a US tour.

War pigs

The legal battle which followed effectively put the band on ice for a year, which afforded Osbourne plenty of time to focus upon his self-destructive habits. When they returned with 1975's *Sabotage,* it was evident Ozzy was starting to go off the rails. "If I don't sound very cheerful I think that I'm a schizophrenic/So, tell me people, am I going insane?" he sang.

To add to the problems, musical differences were also emerging, with Iommi and Butler keen to develop a more layered and polished sound and Osbourne wanting to keep it basic.

After one more album, 1976's patchy *Technical Ecstasy*, Osbourne left and Dave Walker from Savoy Brown became the first in a line of vocalists who attempted the near impossible task of replacing him.

1983

BORN AGAIN

The Sabs turn into a heavy metal 'super group' with the shriek of Ian Gillan fronting the set. The result was a commercial success, but the only album the Deep Purple singer made with the band.

1986

SEVENTH STAR

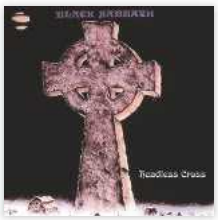
Intended by Iommi as a solo album until the record label refused to release it without the Sabbath imprimatur. Deep Purple's Glenn Hughes is on vocals, but it's one of the band's least satisfying albums.

1987

THE ETERNAL IDOL

Another LP with only Iommi present from the original lineup as new singer Tony Martin takes over vocals. *The Shining* and *Ancient Warrior* stand out as the best tracks on a lacklustre set.

1989



HEADLESS CROSS

Songs with predominantly occult/Satanic titles such as *Devil And Daughter* and *Kill In The Spirit World* on the second album with Martin on vocals. Brian May has a fine solo on *When Death Calls*.

1990

TYR

A concept album based on Norse mythology. The keyboards of Geoff Nicholls play a surprisingly prominent role as Martin became the first singer since Ozzy to last three consecutive studio albums.

Osbourne was coaxed back for 1978's *Never Say Die!*, its title a defiant riposte to the burgeoning punk insurrection. But the album lacked the fire of old and on tour Sabbath were mortified to be upstaged by their support act, a bunch of young whippersnappers called Van Halen, who had stolen not only Sabbath's metal riffs but their thunder, too.

By the time of the next album Osbourne had gone again – and this time he had been fired. "Ozzy had come to an end", Iommi said. "We were all doing a lot of drugs and Ozzy was getting drunk. We were supposed to be rehearsing and nothing was happening. It was like, 'Rehearse today? No, we'll do it tomorrow.' It got so bad that we didn't do anything."

The original Sabbath lineup (minus drummer Bill Ward) of Butler, Iommi and Osbourne

Mob rules

Osbourne embarked on a bizarre but lucrative solo career that included getting arrested for urinating on the Alamo and biting the head off a bat on stage. But that's a legend best saved for another day.

His departure also led to Ward quitting. Claiming that it was: "intolerable to get on the stage without Ozzy", he was replaced by Vinny Appice and Osbourne was replaced by Ronnie James Dio.

The ex-Rainbow vocalist actually proved to be something of an inspired choice. Osbourne had been a showman and a gut-level rabble-rousing vocalist. Dio brought a greater musicality and unlike Osbourne, whose vocals simply followed the riff, he was bold enough to sing across the riff. Rio's debut with Sabbath on 1980's *Heaven And Hell*, marked a stunning return to form, and 1981's stomping and theatrical *Mob Rules* was every bit as good.

Sadly it didn't last and Dio quit in 1983 following a row with Iommi over the volume of his vocals on a live album. He took Appice with him, meaning that Ward returned while Deep Purple's Ian Gillan became Sabbath's fourth singer in six years.

He stayed for just a single album before rejoining Deep Purple and his time with Sabbath is best remembered for inspiring Spinal Tap, as the band unveiled a giant Stonehenge set on stage. Gillan's grasp of Sabbath's lyrics was also sketchy and the dry ice obscured his cue cards, so that, as one critic put it: "classic songs were reduced to endless riffs and screams of 'yeah!'"

By now, membership of Black Sabbath had become a revolving door. Ward quit again and so did Butler as Black Sabbath became the Tony Iommi show. When the classic quartet reformed for one night only to play Live Aid in 1985, their performance failed to ignite. According to Butler, they were all too drunk and/or stoned but as nobody in the band was talking to each other, they all got high in separate trailers backstage.

When Ozzy left, a line of new vocalists attempted the near impossible task of trying to replace him

The following year Iommi tried to release *Seventh Star* as a solo album, but his record label insisted on putting Sabbath's name on the record. He toured as Sabbath with a succession of vocalists including Glenn Hughes, another former Deep Purple singer, Ray Gillen and Tony Martin, before Dio and Butler rejoined for the 1992 album *Dehumanizer*. Both soon quit again.

Then out of the blue in 1997 came the unexpected news that Sabbath fans had hoped for but feared would never happen – the classic lineup of Osbourne, Iommi, Butler and Ward was getting back together again.

In the event the reunion was marred when Ward had a heart attack during rehearsals for a tour, but he recovered and the group toured sporadically until 2006.

There was another reunion in 2011 which two years later led to the album *13*, the first Black Sabbath studio joint in 16 years. It was also their last and the final gig on the band's farewell tour took place on 4 February, 2017. Fittingly it was in Birmingham, back where it stated. The final song was streamed live on the band's Facebook page and a firework display was unleashed as the band took its final bow.

"I remember playing the Crown pub in Birmingham and thinking, 'This'll be good for a couple of years – drink a few beers and have a jam'," Osbourne told a BBC reporter after the final cheers had died away. "It turned out to be the beginning of the most incredible adventure. But this is definitely it. It's run its course." Yet what a rambunctious, thunderous, full-tilt, harum-scarum, roller-coaster of an adventure it had been ●

Picture credit: Shutterstock.com/Ga Fullner

1992

DEHUMANIZER

Ronnie James Dio replaces Martin and drummer Vinnie Appice returns along with Butler as the lineup that made *Mob Rules* is reunited. Something of a back-to-basics record, it became Sabbath's best seller in almost a decade.

1994

CROSS PURPOSES

The revolving door sees Dio depart again and Martin return, but there's a going-through-the-motions feel to songs with predictable titles such as *Psychophobia*, *Cardinal Sin* and *Evil Eye*.

1995

FORBIDDEN

Who would have thought we'd ever hear the rapper Ice-T on a Sabbath album? Yet there he is on the opening track *The Illusion Of Power*, alongside Martin, making his fifth and final appearance as Sabbath's vocalist.

2013

13

The first studio album with Ozzy back in his rightful place since 1978's *Never Say Die!* and a fitting way to go out. The nine-minute epic *God Is Dead?* even won Sabbath a Grammy for Best Metal Performance.

iFi Audio
GND Defender

A PROBLEM OFTEN encountered when connecting new items of audio equipment into your hi-fi is the introduction of hum. This is invariably caused by the dreaded earth loop and occurs when a piece of equipment is connected to earth via more than one electrical path.

An earth loop can occur in a system when the signal earth is connected to the mains earth on a component. The equipment is therefore connected to earth via both the audio signal earth and the earth in the mains connector. This has led some to remove the earth connection in the mains plug as a way of curing the hum, but this poses a real safety hazard and is certainly not to be recommended.

iFi Audio has come up with an elegant solution to the problem in the shape of the GND Defender, which is fitted between the IEC socket of your equipment and the IEC plug of the mains lead. The GND Defender works by disconnecting the DC loop running through the connected component without compromising either the EMI shielding or electrical safety (it doesn't employ a simple earth lift resistor that could result in the equipment chassis not being at earth potential).

Rattle and hum

In order to test the GND Defender, I connect an old, low-cost CD player that has a known issue of causing mains hum into my system. As soon as I plug in the IEC mains lead, I can hear a slight hum through my system, even when the CD player is switched off. I then remove the IEC plug from the CD player, connect the IEC plug to the GND Defender and then plug the GND Defender into the CD player. The result – silence!

I turn on the CD player and am finally able to play music with no audible hum whatsoever. Of course, if multiple earth loops exist, more than one GND Defender may very well be required for each piece of offending equipment.

The GND Defender definitely does what it says on the tin and solves the problem of earth loop hum in a safe and elegant way. ***NR***

DETAILS

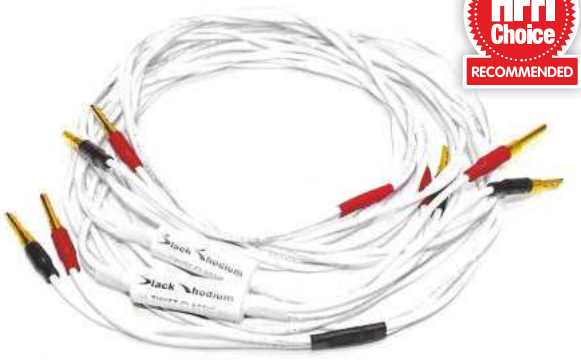
PRICE
£99

TELEPHONE
01279 501111

WEBSITE
ifi-audio.com
armourhome.co.uk

OUR VERDICT
★★★★★

Black Rhodium
Twist Classic speaker cable



DESIGNED TO REPLACE the low-cost twin flex supplied with a starter music system, the Twist Classic is a two-core twisted pair employing 0.75mm² tinned copper conductors insulated with a 1.2mm silicone rubber dielectric. At one end there's a large ferrite tube to filter out high frequency interference. The cable is terminated in gold-plated Z plugs at each end and is available in 3m and 5m pairs. Other lengths and terminations are available on request.

The Twist Classic is very flexible and is easily routed around the tightest of corners in my listening room. Hooking up the speaker cable to my valve monoblocks and transmission line speakers, I turn to a classic LP of JS Bach's *Prelude and Fugue in D major* played by Peter Hurford on the organ. This powerful and commanding performance is well conveyed with all the detail clearly reproduced during the crescendos, rather than degrading into an indistinct mush of noise.

Twist and shout

With Simon And Garfunkel's *Cecilia* on my turntable, all the various lines of activity are beautifully presented and clear. The pumping bass drum is tight and well controlled and although the vocals are very bright, there's no edginess or harshness in the voice.

A 1959 commercial stereo tape recording on my Studer A810 pro tape deck of *Skyliner* performed by The Velvet Brass has freshness and clarity with a very wide soundstage. There is plenty of air around the individual instruments and the drums and bass kicks are punchy and highly energetic throughout.

I switch back to my turntable for an LP of John Williams and the English Chamber Orchestra performing Rodrigo's *Concierto De Aranjuez*. The intimate guitar playing by Williams really draws me into the performance, and there is a real sense of depth to the soundstage on this recording.

This is an excellent-value speaker cable and a definite step up from any supplied twin flex. ***NR***

DETAILS

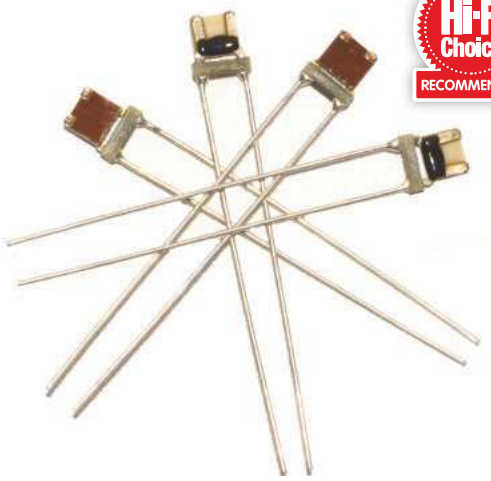
PRICE
£200 for a 3m pair, terminated with gold-plated Z plugs

TELEPHONE
01332 367261

WEBSITE
black-rhodium.co.uk

OUR VERDICT
★★★★★

Charcroft
Audio-Grade Resistors



LIKE MANY ITEMS in the audio chain, passive components can have a significant effect on sound quality. However, although there are many soldering iron-wielding audiophiles who are prepared to spend lots on audio-grade capacitors, some often think twice about spending a similar amount on resistors – which are of equal importance.

The Charcroft Audio Resistor (CAR) is composed of Vishay's Bulk Metal Z-foil technology, and the design offers a combination of low noise, low inductance and low capacitance. Although it's widely acknowledged that regular foil resistors are the component of choice for audio applications, Charcroft claims the special 'naked Z-foil' design without case or encapsulation adds an additional dimension in reducing signal distortion and increasing clarity. These are available in a range of preferred values from 10ohm to 100Kohm. Other values can be made to special order on request.

Resistance is futile

Replacing critical resistors in my phono stage and preamp stepped attenuator results in a noticeable increase in overall clarity, with bags of detail and splendidly accurate image placement. Unlike many other metal film resistors I've used, there's no sign of harshness to the sound and they present a wide, flat and well-extended frequency response. The CAR is also very easy to listen to. This quality is normally associated with carbon film resistors, but in addition the CAR has superb detail that's often lacking with carbons. This is perhaps best demonstrated by a great recording of Rachmaninov's *Piano Concerto No.2* played by the Royal Philharmonic Orchestra. Dmitri Alexeev's piano performance is crystal clear and is never swamped by the orchestra, even during the crescendos. The performance is elegant, engaging and very easy to listen to throughout, with excellent detail and impressive front-to-back imaging.

The CAR is the best-sounding resistor I've heard and if your budget stretches to it, is worth every penny. ***NR***

DETAILS

PRICE
£12.14 to £67.81 each, depending on value

WEBSITE
hificollective.co.uk

OUR VERDICT
★★★★★

Black Rhodium
Operetta USB cable

COMPUTER-GRADE USB CABLES are fine for connecting printers to your PC, but don't cut the mustard when it comes to audio. They may be low cost, but using them can result in unwanted effects that can manifest as errors in the digital data stream, which the DAC has to correct.

This has led Black Rhodium to develop a series of cables specifically for audio. The Operetta sits at the top of the range and is available with a USB Type-A connector at one end and a Type-B at the other. It incorporates a noise filter in the power lines to limit the effects of noise transmitted along the 5V USB power lines. It also has a special screen designed to reduce the negative effects caused by external RFI and EMI. Finally, the Operetta is sheathed in an acoustic braid. All of this makes the cable itself very thick (about 15mm in diameter), but nevertheless it's still quite flexible.

I connect the standard USB-A plug to a Windows 10 PC and the Type-B end to a Furutech ADL Stratos DAC and select a 16-bit/44.1kHz FLAC of Stephen Hough and the Bournemouth Symphony Orchestra playing Rachmaninov's *Piano Concerto No.1* and am treated to a very open and clear presentation with plenty of energy and refinement.

Better operetta

I then switch to a DSD128 file of Ravel's *Violin Sonata No.2* from UltraAnalogue Recordings of Toronto, performed by Tatsuki Narita on the violin and Yun-Yang Lee on the piano. The image placement of the two instruments is spot on while the effervescent playing by the two performers is captivating. Similarly, a high-resolution 24-bit/192kHz WAV file of Corelli's *Concerto Grosso No.4* performed by Interpreti Veneziani beautifully demonstrates the superb accuracy of the instrument placement within the soundstage.

Although rather pricy for a USB cable, the Operetta is very well made and definitely suitable for a high-end audio system. ***NR***

DETAILS

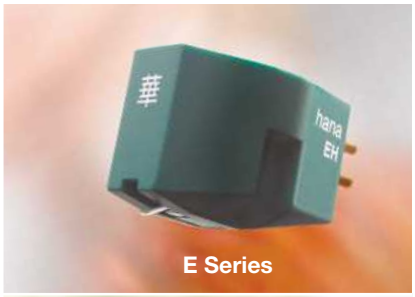
PRICE
£450 for a 1m cable

TELEPHONE
01332 367261

WEBSITE
black-rhodium.co.uk

OUR VERDICT
★★★★½

Hi-Fi Choice RECOMMENDED
Hifi Pig RECOMMENDED
BEST BUY
Hi-Fi Choice GROUPTEST WINNER
stereonet
ear BEST BUY
GOLDEN EAR AWARDS 2017
HIGHLY RECOMMENDED
HI-FI WORLD £



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JBL AURALiC clearaudio MONITOR AUDIO PATHOS mark Levinson
ProAc Pro-Ject UNISON RESEARCH QUAD MUSICAL FIDELITY REL

Buying **Guide**

Selecting the components you want to audition is never easy, but help is at hand with our pick of the best to pass through our respected reviewing process

Hi-Fi Choice Recommends
ESSENTIAL HI-FI YOU'LL WANT TO OWN

■ **CD players** p110 ■ **Amplifiers** p111 ■ **Pre/power amps** p111
■ **Cables** p112-113 ■ **Network audio players** p114
■ **Music servers** p114 ■ **DACs** p115 ■ **Loudspeakers** p116-118
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■ **Cartridges** p119 ■ **Phono stages** p120
■ **Headphones** p120-121 ■ **Portable DACs** p121

CD PLAYERS

Audiolab
6000CDT

PRICE: £380 **REVIEWED:** *HFC* 447

The 6000CDT is exceptional at revealing what's on your discs to deliver a great big soundstage with plenty of detail inside. It can dig down deep into the mix to eke out the different musical strands while dynamically and rhythmically it's hard to beat at the price. In short, it's a super, highly affordable audiophile CD transport.

★★★★★

Cambridge Audio
AXC35

PRICE: £300 **REVIEWED:** *HFC* 454

Something of a budget marvel, you'll have to work extra hard to get the AXC35 to put a foot wrong. Bass is firm, detailed and blessed with excellent timing; the tonal palette is pleasingly broad and clean; and though the soundstage doesn't extend much beyond the speakers, there's great depth perspective.

★★★★★

Exposure
XM CD

PRICE: £1,200 **REVIEWED:** *HFC* 455

A highly likeable half-width compact disc player that presents music in an enjoyable yet technically accurate manner, the XM CD might lack the operational slickness and versatility of some rivals, but it more than makes up for it with its energetic, lively sound, dynamic light and shade and charming character.

★★★★½

Métronome Technologie
Le Player 2S

PRICE: £5,100 **REVIEWED:** *HFC* 449

As good as the sweet treble and rich bass are, what really impresses here is how when fed weaker CDs and impoverished MP3s the delivery remains unflappable and composed as layers of detail are locked into sharp focus.

★★★★★

Musical Fidelity
M3scd

PRICE: £1,150 **REVIEWED:** *HFC* 450

Able to string together elements of the mix dextrously for a natural and believable sound, the M3scd's combination of detail and rhythmic alacrity are highly impressive while its excellent timing and tonal balance leave you wanting more. With its lovely, lyrical sonics oozing detail and subtlety, this is an extremely capable player.

★★★★★

Rotel
CD11 Tribute

PRICE: £400 **REVIEWED:** *HFC* 469

A stunning team up between Marantz legend Ken Ishiwata before his sad passing and hi-fi luminary Karl-Heinz Fink, this is not one of those do-it-all players. Instead, its simple, refined sound and no-nonsense operation combine for a stunningly frill-free approach to superb playback at a great price.

★★★★★

ALSO CONSIDER

Audiolab
8300CDQ
£1,100 *HFC* 448
Taking the winning recipe of the 8200CDQ and adding an upgraded DAC with DSD playback, the accurate and uncoloured sound of the Audiolab is unmistakable. Vast amounts of detail are extracted from the mix, soundstaging is incredible and music flows naturally.

★★★★★

Leema Acoustics
Stream IV
£2,300 *HFC* 456
The latest update to this long-established player feels a considerable step forward. CD playback is highly refined, assured and transparent, bass is rock solid with visceral depth that positively grips your solar plexus and streaming shares all these qualities for the best of both worlds.

★★★★½

Marantz
SACD 30n
£2,700 *HFC* 468
While its styling might be a touch divisive, the SACD 30n's involving, detailed and highly refined sound is beyond dispute whether it be with SACD or CD. Meanwhile, its neat supreme streaming integration ensures a great performance without discs too.

★★★★★

Roksan
K3 CD Di
£1,300 *HFC* 403
Offering the relatively rare combination of smooth tonality with a lively and animated way of presenting the music, the K3 CD Di displays a sweet and even tonal balance with a panoramic soundstage. In short, it's closer to good analogue sound than digital.

★★★★★

AMPLIFIERS

Copland
CSA150

PRICE: £4,988 **REVIEWED:** *HFC* 479

A tube/transistor hybrid that's more than the sum of its parts, the CSA150 is not just a fine all-rounder as it also excels sonically with a big, strong, engaging performance that's also surprisingly subtle and detailed for such a muscular thing. Well worth an audition, it's a bargain at the price considering all that it does.

★★★★★

Cyrus Audio
i7-XR

PRICE: £2,300 **REVIEWED:** *HFC* 473

Cyrus' engineers have been let off the leash budget-wise and the result is very impressive because while this is still unquestionably a Cyrus integrated amp – it looks like one, feels like one and has all the features we'd expect from the company – everything is ramped up and sounds better than ever before.

★★★★★

Exposure
3510

PRICE: From £2,250 **REVIEWED:** *HFC* 485

Delivering speaker control like a sergeant major on a power trip, you'd be forgiven for thinking the 3510 has been transported from the Eighties – all minimalist design and line-level inputs. Additional USB/DSD64 DAC and MC or MM phono boards are available and the performance comes across like a sizable blast from the past.

★★★★★

Quad
Vena II

PRICE: From £650 **REVIEWED:** *HFC* 448

With a comprehensive spec that moves Quad's most compact integrated on and enough weight to bring any type of music so thrillingly to life, the Vena II does a fine job of giving bass natural weight, snap and dynamic ability while delivering a big room-filling sound that belies those tiny dimensions.

★★★★★

Rega
io

PRICE: £380 **REVIEWED:** *HFC* 475

It might appear small and rather plain and it might not be over flowing with features or boast a huge amount of Watts, but give the io a talented source and you can't fail to be impressed by its outrageous musicality and lightness of foot. It's at one with the music with a supple fluency and rhythmical literacy.

★★★★★

Yamaha
A-S3200

PRICE: £5,000 **REVIEWED:** *HFC* 464

This highly accomplished performer succeeds through its breadth of ability rather than exceeding in one specific area. A highly capable performer, its snappy sound and gutsy demeanour combine with speed, grip versatility and power to create a great-looking beast of an integrated.

★★★★★

PRE/POWER AMPLIFIERS

Cambridge Audio
Edge W
£2,500 *HFC* 447
The Edge W power amplifier quotes 2x 100W RMS output and has oodles of power to drive pretty much any speaker. It has a neutral sound with a hint of sweetness and an upbeat nature underwritten by plenty of insight that's seriously good for the money.

★★★★★

Longdog Audio
P6100M
£3,500 *HFC* 469
They may look and feel old-fashioned, but the P6100Ms are one of those rare but happy hi-fi surprises: seriously high-end sound for mid-price money. More transparent than they have any right to be, they have a fluid and mellifluous midband and pack one hell of a punch.

★★★★★

Exposure
XM7/XM9
£1,240/£1,390 *HFC* 429
Fast, open and three dimensional, the XM9 pairing is capable of driving more awkward speaker loads to high levels without any complaint. Partnered with the XM7 preamp/DAC, Exposure's house sound means a fulsome bass, midband detail and a smooth, yet spacious treble.

★★★★★

Rotel
Michi P5/S5
£3,300/£5,400 *HFC* 467
Rotel's high-end sub-brand might not be the last word in attack and slam, and some might bemoan its lack of detail. But that misses the point: when it comes to weight, scale and a breath-takingly natural approach to making music, few combos come even close to this one.

★★★★★

CABLES – INTERCONNECTS

Atlas Cables
Element Achromatic

PRICE: £86 for 1m **REVIEWED:** *HFC* 485

Achromatic means without colour and that's very much what you get with this affordable offering. Compared with previous Atlas Element cables this has increased OCC copper content on the conductors and a new process for reduced distortion. The result is great spaciousness to the soundstage and imaging plus powerful bass.

★★★★★

Black Rhodium
Minuet

PRICE: £160 for 1m **REVIEWED:** *HFC* 453

Replacing the Prelude, this RCA interconnect is screened and employs silver-plated copper wire to improve clarity and high-frequency performance. The result is remarkably sophisticated for the money with detail, positioning of instruments, imaging and separation absolutely nailed on.

★★★★★

Chord Company
Clearway

PRICE: £100 for 1m **REVIEWED:** *HFC* 485

A fantastic performer across a broad range of different music styles, the Clearway features the company's proprietary ARAY conductor geometry and ensures that all the detail of the individual instruments remains well defined, throughout playback – adding to the overall realism of the production.

★★★★★

Ecosse Cables
Master Reference SE

PRICE: £425 for 0.8m **REVIEWED:** *HFC* 455

Designed to convey an even greater degree of transparency, detail and three dimensionality than its rival interconnects, the Master Reference SE certainly doesn't disappoint. Punchy basslines, well-defined positioning, supreme soundstage width and clear focus are very much the order of the day here.

★★★★★

Kimber Kable
Select USB-Cu

PRICE: From £563 **REVIEWED:** *HFC* 456

Terminated with hand-made purpleheart and gaboon ebony connector housings, this distinctive USB cable achieves a soundstage that is both wide and deep. The edginess of violins is deeply impressive while instruments are perfectly located across the room revealing a stunning mix of definition and clarity.

★★★★½

QED
Performance Audio 40i

PRICE: £55 for 1m **REVIEWED:** *HFC* 485

The stand-out winner of our interconnect *Group Test*, this black pearl-sheathed offering pairs a supreme sonic showing with impressive build quality and performances free from muddiness at a very generous price.

★★★★★

"A man who stops advertising to save money is like a man who stops a clock to save time."
- Henry Ford

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CABLES – MAINS POWER

Atlas Cables
Eos dd

PRICE: £145 for 1m **REVIEWED:** *HFC* 452

Referring to 'dual drain' technology, the Eos dd is designed to act as a filter against incoming contamination. The result is an inky blackness between musical phrases and a supremely low noise floor, while detail and imaging improve as interference is banished.

★★★★★

Black Rhodium
Stream

PRICE: £450 for 1.7m **REVIEWED:** *HFC* 430

Black Rhodium has discovered that optimum sound quality is obtained from cables of 1.7m, hence this offering featuring silver-plated copper conductors. And who are we to argue, considering the impressive clarity and focus of instruments combined with a noise floor displaying an impressive lack of interference.

★★★★½

Chord Company
Shawline

PRICE: £200 for 1m **REVIEWED:** *HFC* 438

Available at a variety of lengths, the Shawline mains cable is made from three lots of 14 AWG multi-strand conductors. Test highlights include superior front-to-back imaging, with all the tonal complexities of the instruments really coming to life, delivering genuine energy to orchestral performances.

★★★★★

Furutech
Roxy

PRICE: £233 for 1.5m **REVIEWED:** *HFC* 447

Connecting the Roxy to a source component immediately removes a layer of glare and 'glint' from the sound; tonally it's darkly translucent instead of shiny white gloss, allowing the listener to hear more into the music and appreciate the space between the notes.

★★★★★

IsoTek
Evo3 Initium

PRICE: £65 for 1.5m **REVIEWED:** *HFC* 413

IsoTek's entry-level power cable has a distinctive opalescent green finish that is flexible and stylish. Once employed, there's a noiceable step up in the quality of musical instrument focus while clarity improves as the background becomes quieter and bass more extended.

★★★★★

Russ Andrews
30th Anniversary YellO

PRICE: £65 for 1m **REVIEWED:** *HFC* 423

First introduced in the nineties, the YellO benefits from years of research into the effects of mains quality. Employing pure copper conductors, this relaunched cable results in a wider, deeper soundstage and the improvement it brings to instrument focus has to be heard to be believed.

★★★★★

DragonFly Cobalt

DAC + Preamp + Headphone Amp

The award-winning DragonFly Cobalt has the robust 2.1-volt output to drive almost any headphone, uses a bit-perfect digital volume control for outstanding signal-to-noise ratio, enables seamless compatibility with Apple and Android devices, and is an exceptionally competent and affordable MQA Renderer.

Cobalt's precedent-setting performance is made possible by:

- New ESS ES9038Q2M DAC chip with a minimum-phase slow roll-off filter for more natural sound.
- New Microchip PIC32MX274 microprocessor reduces current draw and increases processing speed by 33%.
- Improved power-supply filtering, specifically designed to reduce WiFi, Bluetooth, and cellular noise.
- Includes a form-fitting Carbon-level DragonTail USB-A to USB-C adaptor.

From MP3 to MQA and Hi-Res, DragonFly Cobalt preserves the body, warmth, and natural color in all your music. Experience more beauty at home and everywhere you listen.

audioquest

NETWORK AUDIO PLAYERS

Auralic
Altair G2.1

PRICE: £4,600 **REVIEWED:** *HFC* 482

Not just a network-attached DAC/preamp, with the addition of onboard storage the Altair G2.1 morphs into a self-contained music hub that reveals itself to be a deliciously neutral and clean source. It presents high levels of detail without sounding mechanical or artificial and musical involvement is top notch across all genres.

★★★★★

Cambridge Audio
Edge NQ

PRICE: £3,500 **REVIEWED:** *HFC* 447

Something of a departure from CA's usual fare, this network music player also combines the additional versatility of a DAC and preamp to serve up a sumptuously wide recorded acoustic, with a hugely expansive sound that partners massive punch with great precision for a clean, direct and enjoyable sound.

★★★★★

Matrix Audio
Element X

PRICE: £2,800 **REVIEWED:** *HFC* 473

Supporting everything from network streaming to 768kHz PCM, DSD1024, MQA and Roon, the Element X can also comfortably drive a variety of headphones. Tardis like it hides a multitude of features in its svelte shell and operationally it proves pretty much impossible to throw off course. Be warned, it goes seriously loud.

★★★★★

NAD
M33

PRICE: £4,000 **REVIEWED:** *HFC* 466

Hot on the heels of 2019's M10, the M33 has raised the bar even further. In its full-size guise it offers the same style, flexibility and ease of use combined with a performance that's just as arresting with analogue sources as it is when streaming. Throw in futureproof MDC updating slots, and you're on to a winner.

★★★★★

Naim
ND5 XS 2

PRICE: £2,300 **REVIEWED:** *HFC* 454

Delivering Naim's distinctive flare and typically impressive sound – superb low-end drive with texture and presence combined with a delicious sweetness – this Roon-compatible network music player is supremely engineered, over flowing with useful features and capable of a sparkling performance.

★★★★½

Yamaha
WXAD-10

PRICE: £150 **REVIEWED:** *HFC* 442

One of the smallest options around, this MusicCast network audio player might not look like much, but don't be fooled – it has it where it counts. Tonal balance is neutral; bass is well integrated with good detail; and the space and three dimensionality add to the realism, making it great value for money.

★★★★½

MUSIC SERVERS

Bluesound
Vault 2i
£1,100 ***HFC* 452**
If you see yourself buying into the BluOS ecosystem favoured by the Canadian brand and its cohorts, this 2TB, server, ripper and player compatible with up to 24-bit/192kHz PCM and MQA files, is a great way of starting off in one room and expanding as your system grows.

★★★★½

Innuos
Zenith Mk3
From £3,000 ***HFC* 451**
With one of the best interfaces going and a potently flexible spec, the 4TB, CD ripping Zenith can be used as a Roon Core and delivers an outstanding performance that inspires confidence even for those starting out. It should be right near the top of any shortlist.

★★★★½

Melco
N100 EX
£2,000 ***HFC* 462**
Following a software update back in December 2019, the N100 became the EX so it's now powered by the excellent Intelligent Music Library system – the best in the business. The sharp lines of the chassis combined with the crisp, clean sound help seal the deal.

★★★★★

Naim
Uniti Core
£1,900 ***HFC* 438**
Equipped with a CD ripper and 1TB SSD, the Uniti Core takes on an understated role as it handles 32-bit/384kHz PCM and DSD128 music files impeccably. Presentation is pleasingly neutral and it simply lets whatever network audio player is attached get on with the music.

★★★★★

DACS

Alpha Design Labs
Stratos

PRICE: £1,315 **REVIEWED:** *HFC* 455

Remarkably flexible at the price, the Stratos offers an impressively wide-reaching range of features without compromising sound quality. The soundstage is wide and open with a refined presentation, delicate details are reproduced with breath-taking accuracy and instrument separation and location are absolutely spot on.

★★★★★

Audiolab
M-DAC+

PRICE: £800 **REVIEWED:** *HFC* 449

While some DACs can dive deeper into a recording, what's so likeable about the M-DAC+ is its poise, control and command of the bigger musical picture. With its stunning grasp of flow and tempo, there's a welcome warmth to its presentation and its solid three dimensional imaging is second to none.

★★★★★

Chord Electronics
TT2

PRICE: £3,400 **REVIEWED:** *HFC* 468

We could talk about dynamic range and noise floor modulation, but the TT2 simply creates a more believable illusion of a physical presence and space than its rivals. Combining superb build, typical design flair and stunning sound quality, this is a DAC that not only believes in the superiority of digital, but goes on to prove it too.

★★★★★

iFi Audio
Zen DAC V2

PRICE: £160 **REVIEWED:** *HFC* 480

Supporting PCM files up to 384kHz and up to DSD256, this converter – that doubles as a headphone amp – is an absurdly talented option for the money. Connected to a digital source capable of delivering a lossless signal or better, it is consistently capable of an outstanding audio performance.

★★★★★

Matrix Audio
Mini-i Pro 3

PRICE: £900 **REVIEWED:** *HFC* 482

Claiming the spoils in *HFC* 482's DAC *Group Test*, the Mini-i Pro 3 offers a winning combination of comprehensive spec and features, a stunning casework and – regardless of which way you elect to employ its services – it sounds absolutely superb. In short, it's the most accomplished digital front end for under a grand.

★★★★★

PS Audio
DirectStream

PRICE: £4,860 **REVIEWED:** *HFC* 468

By converting everything it's fed to DSD, the DirectStream reveals more from CDs than its rivals for a superlative analogue-like sound that has more in common with master tape than anything digital can usually muster. Low-level resolution, refinement and a majestic sense of composure add to the positives.

★★★★★

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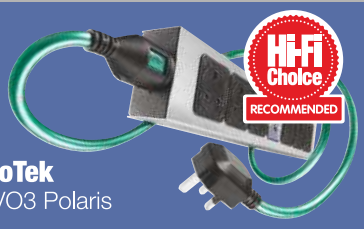

IsoTek
EVO3 Polaris

A six outlet distributor that removes Common and Differential mode mains noise. Delivers a marked benefit for dynamic range, a consequence of lowering the noise floor, as well as a general opening up of the soundstage.

★★★★★

IsoTek
EVO3 Initium

An entry-level power cable that is flexible and stylish. Once employed, there's a noticeable step up in the quality of instrument focus while clarity improves as the background becomes quieter and bass more extended.

★★★★★

FLOORSTANDING LOUDSPEAKERS

ATC SCM40

PRICE: £4,000
REVIEWED: *HFC* 480

One of the company's more compact designs, this 40-litre three-way floorstander is a sealed box cabinet with lower sensitivity than most (necessitating a pretty muscular amp to hear it at its best). However, this is a solid, robust, powerful and gutsy-sounding speaker with plenty of insight and expansive soundstaging. Subtle and delicate enough for softer moments, it's equally comfortable going loud – displaying dramatically rendered crescendos and a fine sense of space.

★★★★★

Bowers & Wilkins 702 Signature

PRICE: £5,000
REVIEWED: *HFC* 480

Sporting B&W's tweeter-on-top, this stunning three-way comes with a glorious Datuk Gloss ebony-coloured veneer. It has a big controlled sound that fills large rooms with ease, ensuring rousing renditions of music overflowing with copious air and space and impressive soundstaging. Deft handling and plenty of punch complete the package.

★★★★½

DALI Spektor 6

PRICE: £500
REVIEWED: *HFC* 473

This *Group Test* winner positions itself at an extremely competitive price point and while it looks like a £500 loudspeaker, it sounds like it costs way more. It has a lovely natural tone, plus lots of detail and great dynamics. It sounds big, confident and expansive and yet is never overbearing or in anyway in your face. Throw into the mix a devastating combination of finesse and musicality and it's insatiable appetite for rhythm, and it's a no-brainer at the price.

★★★★★

Kerr Acoustic K320 mk.3

PRICE: £7,500
REVIEWED: *HFC* 480

This *Group Test* winning floorstander comprehensively trounced everything else in almost every way in its roundup. It boasts a tonality that's a touch on the warm side of dry alongside a soundstage of architectural precision. In other respects it has extended yet propulsive bass, a joyously open midband and a deliciously lustrous treble. Plus it makes music great fun.

★★★★★

Monitor Audio Gold 300

PRICE: £4,000
REVIEWED: *HFC* 453

The benefits the Gold 300 brings to openness, clarity, fine detail and harmonic structure is very special. Although with vividly produced material it can verge on the 'hyper real', this is a consummate crowd pleaser that more than any rival at the price sells an idea of high-end luxury and sonic excellence that's hard to distinguish from the real thing.

★★★★★

Spendor D7.2

PRICE: £4,500
REVIEWED: *HFC* 456

A crisp, open and even-sounding loudspeaker that's impressively engaging and surprisingly dynamic – especially for a floorstander at this price. There's more space around vocals and a lighter more spry sound to cymbals, making for a lifelike sound despite its ability to remain smooth and sophisticated. The D7.2 is a modestly sized, highly capable, do-it-all loudspeaker that's well worth an audition.

★★★★★

LOUDSPEAKER CABLES

Chord Company
Epic XL
£600 1.5m, terminated *HFC* 450
Combining elements of Chord's Signature Reference/XL with its Epic speaker cable, the XL bristles with energy and brings fantastic detail to the fore. Subtle elements are captivatingly clear, soundstage depth is enormous and clarity is supremely enhanced.

★★★★★

Chord Company
Odyssey X
£150 1m, terminated *HFC* 451
Made from the same materials as the Rumour X (*HFC* 447), the Odyssey X is designed to bring more control to dynamics and definition, and boy does it deliver. Front-to-back imaging is superb, instruments are well focused and clearly positioned while piano is full and rich.

★★★★★

QED
XT25
£85 3m *HFC* 434
Claimed to achieve a lowering of impedance compared with a traditional large cross-sectional area twin-core cable, the XT25 offers up great refinement and engaging musicality. Vocals are clear and full bodied, silence between phrases is eerily quiet and the noise floor is very low.

★★★★★

True Colours Industries
Storm
£22 1m *HFC* 453
This flexible ribbon cable is 2mm thick, making it ideal for hiding away under the carpet for tidy bi-wire hook-ups, while its tight and well-controlled performance reveals impressive openness with a spacious sound that's full and entirely uncluttered, even during crescendos.

★★★★★

STANDMOUNT LOUDSPEAKERS

Bowers & Wilkins
607 S2 Anniversary

PRICE: £450 **REVIEWED:** *HFC* 470

More than just a range refresh, this baby box has had new life breathed into it in a rather skilful and expert way. So much more than the sum of its parts, the 607 S2 Anniversary Edition is highly engaging across all types of music, has a super classy treble and is the best B&W entry-level standmount yet.

★★★★★

Falcon Acoustics
RAM Studio 20

PRICE: From £2,000 **REVIEWED:** *HFC* 446

The RAM Studio 20 clearly favours amps with plenty of grip, especially in the bass. It might not offer forensic levels of detail with which to dissect a recording, but as a wide-bandwidth, high-performance standmount that sounds easy, natural and is dripping with musical finesse, it takes some beating.

★★★★★

Fyne Audio
F1-8

PRICE: £6,000 **REVIEWED:** *HFC* 473

If the F1-8 is anything to go by, size really does matter. If you're short of space, look elsewhere as this is a beast that won't melt into the background. But as a speaker that merges the strengths of the best standmounts and floorstanders, it is dynamic, dextrous and deeply satisfying with all types of music.

★★★★★

Q Acoustics
Concept 30

PRICE: £900 **REVIEWED:** *HFC* 486

The Concept 30 is magnificently free of issues, places no great demand on partnering equipment and is unfussy about positioning. Combined with great looks, it is one of the very best standmounts available at the £1,000 pricepoint. Regardless of what you play on it, it's very hard to unsettle. Superb.

★★★★★

Sonus faber
Lumina I

PRICE: £800 **REVIEWED:** *HFC* 477

A worthy entry point into the Sonus faber family and a genuine star in its own right, the Lumina I manages to sound bigger, more self-assured and room filling than you'd expect from looking at it. It does all this while still delivering on the virtues expected from the company and looking and feeling very pleasant at the same time.

★★★★★

Spendor
Classic 3/1

PRICE: £2,730 **REVIEWED:** *HFC* 476

The Spendor Classic may not be as modern looking as some rivals at the price, but don't be fooled: that traditional design hides a superbly talented standmount able to produce a sensational blend of accuracy, scale, refinement and sheer unadulterated fun, and it's not too fussy about placement.

★★★★★

LOUDSPEAKER SUPPORTS

Atacama Audio
Apollo Cyclone 6
£100 ***HFC*** **455**
Available in a choice of three sizes so you can get the height of your cabinets correctly positioned to suit your listening position, this stand removes unwanted vibrations from the performance sharpening imaging and instrument focus for a full, refined sound.

★★★★★

Hi-Fi Racks
X50
From £180.48 ***HFC*** **453**
Solidly built, these elegant yet classy speaker stands are available in a choice of flexible customisation options, removing all colouration from the performance and giving the impression the cabinet is floating in mid-air. Great value for money and a simple upgrade.

★★★★★

IsoAcoustics
GAIA II
£300 ***HFC*** **427**
Attaching the GAIA II feet to the underside of your speaker provides a high degree of isolation that gives it the opportunity to breath and display a level of clarity and openness that's easy to hear. Music just sounds right with them in place and the price is right too.

★★★★★

Townshend Audio
Seismic Isolation Podium
From £1,400 ***HFC*** **426**
Placing your loudspeaker on to a Seismic Isolation Podium is a revelation. The way it completely removes its interaction with its surroundings is mind blowing, bringing clarity to the entire frequency range, enabling it to communicate far more effectively.

★★★★★

WIRELESS LOUDSPEAKERS

Bluesound
Pulse Flex 2i

PRICE: £300 **REVIEWED:** *HFC* 453

With no shortage of lower frequencies, the Pulse Flex 2i's bass extension is controlled, pleasantly quick and has an impressive level of clout to it. Used as a pair, the soundstage is large and effortless underpinned by the aforementioned bass while the connections and range of features provide impressive flexibility.

★★★★½

Devialet
Phantom Reactor 900

PRICE: £2,580 **REVIEWED:** *HFC* 456

Unlike any other wireless designs, the distinctive Phantom boasts 900W of peak power via its hybrid Class A/D amp and bass that dives down to a barely believable 18Hz. The result is power and extension that defies physics, but more impressive still is how it performs at low volume levels.

★★★★½

KEF
LS50 Wireless II

PRICE: £2,250 **REVIEWED:** *HFC* 479

Combining an extensive and highly practical specification that makes it an ideal one-stop shop with a level of overall performance that is truly outstanding, the LS50 Wireless II might not be cheap, but it is unquestionably a quite superb all-in-one solution that images better than most rivals and is sonically fabulous.

★★★★½

KEF
LSX

PRICE: £1,000 **REVIEWED:** *HFC* 446

It might not offer the muscle and dynamic reach of the LS50 Wireless, but the LSX is cut from the same sonic cloth. Size, style, flexibility and sound quality all impress, but it's the active ingredient which enables a performance that similarly priced passive systems will find hard to match that wins the day.

★★★★★

Naim
Mu-so 2nd Generation

PRICE: £1,300 **REVIEWED:** *HFC* 452

A world away from the traditional components Naim is known for, the Mu-so 2nd Generation delivers unfailingly entertaining sonics with hi-fi values and an exceptional musicality.
The best one-box speaker system full stop.

★★★★★

System Audio
Legend 5.2 Silverback

PRICE: £2,800 **REVIEWED:** *HFC* 474

A new paradigm that shatters the notion that you need a strapping floorstander for deep, powerful bass, the Legend 5.2 Silverback musters a performance that is as coherent, palpable, tonally true and rhythmically compelling as the very best available rival at many multiples of its price.

★★★★★

ONE-BOX SYSTEMS

Cambridge Audio
Evo 150
£2,250 *HFC* 477
In terms of functionality, the Evo 150 offers little over a dedicated streaming amp such as Hegel's H95. As an object of desire, however, it's on a different plane – as lovely to look at as it is to use and to listen to. There will be many takers for it.

★★★★★

NAD
M10
£2,200 *HFC* 451
With its super flexibility, powerful amplifier design, big front panel touchscreen and impressive BluOS platform, this is a supremely stylish offering. Sonically it's a very powerful and refined system while its definition and precision is in ample supply.

★★★★★

Naim
Uniti Star
£3,500 *HFC* 433
Fast, powerful and grippy with oodles of emotion and a pleasingly expressive tonality, the Uniti Star might not have the forensic detail resolution of some similarly priced rivals, but it isn't far off. Otherwise it's practically impossible to find fault at the price.

★★★★★

Novafidelity
X14
£690 *HFC* 446
Deserving of praise for the functionality it manages to squeeze into such a compact and elegant chassis, the X14's well thought out and practical approach will attract those looking to take their first steps into network audio and it makes a greater second-room setup.

★★★★½

TURNTABLES

AnalogueWorks
TT Zero

PRICE: £1,500 **REVIEWED:** *HFC* 453

Pristine without being bright, the TT Zero has fine tonal discrimination and starts and stops precisely where it should. It is able to unpick all the audio strands with ease, sounding, open and airy with plenty of sparkle and bite, a low noise floor, lucid rhythmic gait and impressively clean, controlled and tuneful bass.

★★★★★

AVID
Volvere SP

PRICE: From £5,500 **REVIEWED:** *HFC* 472

With its dynamic, detailed and confident presentation, the Volvere SP delivers all of the thrills hidden in your vinyl's grooves and adds a few more just for good measure. Rock solid, unerringly precise and gloriously natural, it's a triumph that combines the joys of a belt drive with the accuracy of a direct drive.

★★★★★

Linn
Majik LP12/Krane

PRICE: £3,500 **REVIEWED:** *HFC* 477

For such an old design, this *Group Test* winner sounds surprisingly modern. It's not as soft and rounded as it used to be, but still retains enough of the traditional Sondek character for it to charm listeners. The result is a big, confident and enjoyable sound that's tonally a little warm but with high levels of technical virtuosity.

★★★★★

NEW ENTRY

Pro-Ject
Debut PRO

PRICE: £700 **REVIEWED:** *HFC* 487

Easy to setup and uncomplicated to use, the Debut PRO has been dubbed the most audiophile Debut yet. With its newly designed tonearm, TPE-damped metal feet and 1.6kg platter, it's difficult to disagree. With plenty of room to upgrade, even in stock form, this is among the very best at the sub-£1,000 price.

★★★★★

Rega
Planar 10

PRICE: £4,500 **REVIEWED:** *HFC* 456

A masterpiece that is without doubt one of Rega's finest achievements, the Planar 10 manages to deliver a performance that is outstanding even at this lofty price point. Utterly unflappable, it offers incredible detail retrieval combined with a naturally low noise floor to dish up captivating vinyl execution.

★★★★★

Technics
SL-1500C

PRICE: £900 **REVIEWED:** *HFC* 453

The built-in phono stage is terrific, while the take-no-prisoners sonic personality sounds joyously lively, enthusiastic and 'on it'. Thanks to its legendary torque and stability, it locks down timing and rhythm with start-stop precision and its firm, deep and expressive bass adds unrivalled impetus and authority.

★★★★★

CARTRIDGES

Audio-Technica
AT-OC9XEN
£300 *HFC* 452
This *Group Test*-winning moving-coil cart utilises an elliptical nude stylus mated to an assembly using two coils rather than one – which is something of an A-T trademark – and balances excellent performance with a useful boost to user friendliness, thanks to its threaded body.

★★★★★

Hana
Umami Red
£3,400 *HFC* 483
Translating from Japanese as 'brilliant" and 'gorgeous', this *Group Test*-winning low-output moving-coil cart more than lives up to its name. It sounds beautiful with a superb combination of power, poise, musicality, detail and insight, and makes music sound utterly magical.

★★★★★

Michell
Cusis S
£1,275 *HFC* 479
With a wonderfully refined but potent performance, this *Group Test*-winning moving-coil cartridge has user-friendly dimensions and stunning bass. The result is that it is deftly able to deliver a superb performance with a variety of different musical styles and setups.

★★★★★

MoFi
UltraGold
£1,500 *HFC* 485
This good-looking medium-output moving-coil cartridge from the US record label retains the warmth and air we've come to expect of MC offerings, but partners it with the sort of impressive trackability you'll struggle to match at the price. A real smooth operator.

★★★★★

PHONO STAGES

Chord Electronics
Huei

PRICE: £900 **REVIEWED:** *HFC* 459

The Huei's appeal extends from its rock-solid build and playful, sphere-based control system to its impressive knack of extracting the best from a turntable/cartridge combo without being too painfully honest about the ropier aspects of less-than-pristine recordings.

★★★★★

Hegel
V10

PRICE: £1,300 **REVIEWED:** *HFC* 474

It might be fiddly to setup and ensuring you pick the best combination of DIP switches for your cartridge isn't the most of intuitive of processes, but the V10 is effortlessly smooth, gloriously insightful and impeccably voiced for a crystal-clear performance with a wide range of different MM or MC pick-ups.

★★★★★

iFi Audio
Zen Phono

PRICE: £150 **REVIEWED:** *HFC* 476

An astonishing performance and superb flexibility. Until you find yourself at the price where features like adjustable loading and capacitance are possible, the spec for the asking price is outstanding. This is one of a tiny number of designs anywhere near this price that can do justice to pretty much any cartridge under £500.

★★★★★

Musical Fidelity
M6x Vinyl

PRICE: £1,700 **REVIEWED:** *HFC* 475

This multi-talented design offers a superb combination of excellent connectivity, versatile loading and gain options, a great user interface and excellent sound. Tonally it's very neutral with a crisp clean and spacious tone that's less euphonic than some may like, but nonetheless fun to listen to.

★★★★★

Pro-Ject
Phono Box RS2

PRICE: £1,300 **REVIEWED:** *HFC* 481

The RS2's transparency is genuinely impressive, even judged at the price and its lack of colouration is potentially very useful indeed. This is the product you buy when you're already satisfied with the tonal balance of your system and simply need a well-specified phono stage to complete it.

★★★★★

Tom Evans
MicroGroove+ X mkII

PRICE: £1,000 **REVIEWED:** *HFC* 469

The closest thing the UK has to a phono stage guru, Evans designed the circuit for this stunning stage in 1989. Unapologetically plain, light and unassuming, the MicroGroove cuts the sonic mustard like nothing else to make even mid-priced turntables sound far higher end than they actually are. Superb.

★★★★★

IN-EAR HEADPHONES

Audeze
LCDi3
£900 ***HFC* 478**
Clarity, subtlety and coherence meet scale, air and an utterly compelling sense of dynamic freedom on this stunning *Group Test*-winning planar magnetic in-ear. With great poise and even handedness, it never gives the impression of trying too hard.

★★★★★

Oriveti
OH500
£500 ***HFC* 451**
Combining an airiness with low-end extension that most rivals can only dream of, the OH500's stylish resin enclosures house four Knowles balanced armatures (two for bass and two for the midrange) with an 8mm dynamic bass driver for an enjoyably vivid performance.

★★★★★

Sennheiser
IE 900
£1,100 ***HFC* 478**
If dynamic dexterity and resolution that would shame a spy satellite are what you crave, the IE 900 scours the noise floor like few other in-ear offerings at the price. Articulation, separation and drive are equally impressive while treble extension and refinement are superb.

★★★★★

Bowers & Wilkins
PI7
£349 ***HFC* 478**
The first pair of True wireless in-ears from B&W does a supreme job of capturing fine details and stitching them into a wider whole. Bass extension is deep without being at the expense of speed and noise cancelling works without effecting the tonal balance.

★★★★★

HEADPHONES

Audio-Technica
ATH-M50xBT

PRICE: £180 **REVIEWED:** *HFC* 450

Taking its M50x and turning it into a very capable wireless design (thanks to Bluetooth v5.0) without altering its sonic character, Audio-Technica has come up trumps here. Balance and refinement join crunching bass, impressive three dimensionality and decent noise-cancelling to seal the deal.

★★★★★

Bowers & Wilkins
PX7

PRICE: £350 **REVIEWED:** *HFC* 486

Although it's no match for a high-end wired design, the noise-cancelling abilities of this wireless closed-back model are ideal for music on the move – offering an elevated listening experience amidst the hustle and bustle of the city. An essential audition if you're serious about enjoying your music out and about.

★★★★★

Philips
Fidelio L3

PRICE: £300 **REVIEWED:** *HFC* 486

This wireless noise-cancelling headphone *Group Test* winner ticks pretty much every box at the price. Boasting aptX HD, a 38 hour battery life and decent noise cancelling, it is well built and comfortable. And while the accompanying app makes operation a doddle, the music just flows in an easy going, unforced way.

★★★★★

Rosson Audio Design
RAD-0

PRICE: £2,500 **REVIEWED:** *HFC* 481

A largely viceless implementation of planar magnetic headphone that delivers the commendable virtues of the design with very few of the downsides. Comfortable and well made, the RAD-0 sounds absolutely superb.

★★★★★

Sennheiser
Momentum 3

PRICE: £350 **REVIEWED:** *HFC* 455

With a Bluetooth performance that makes it hard to believe this is really a wireless offering, the Momentum might just be the most consistently entertaining performer Sennheiser has ever produced. Excellent design, fabulous features, subsonic bass and impeccable noise cancelling complete the package.

★★★★★

T+A
Solitaire P-SE

PRICE: £3,000 **REVIEWED:** *HFC* 477

Shaving as much as 40 percent off the price of its flagship P headphone, while retaining more than 60 percent of the capability, this is a stunning open-back, planar magnetic T+A offering. It might be expensive, but the sheer levels of performance and the quality of the build and design mean it is one of the best.

★★★★★

PORTABLE DACS

AudioQuest
DragonFly Cobalt
£270 *HFC* 463
With a relatively low 24-bit/96kHz sample rate, expectations for the Cobalt aren't high until realising it means there's no need for USB driver software. Native MQA decoding is also supported and the open and richly detailed sound make this the best DragonFly offering yet.

★★★★★

Chord Electronics
Hugo 2
£1,800 *HFC* 428
An essential audition, the Hugo 2 is not just a portable DAC/headphone amp, but the best hi-fi digital converter available at or near the price. Music ebbs and flows along in an organic and unforced way and it images with stunning pinpoint precision.

★★★★★

Chord Electronics
Mojo
£400 *HFC* 423
It might be small and have no gain setting adjustment, but the Mojo takes some beating. Its scrupulous accuracy presents what is contained in a recording with no embellishment so that fine detail is extracted with ease, treble energy impresses and stridency remains absent.

★★★★★

iFi Audio
xDSD
£400 *HFC* 439
Justifying its inclusion on sound alone, the xDSD delivers a wide variety of musical styles with admirable clarity and precision. It's engaging, lively sonics and versatile connectivity make it equally adept for mobile or desktop use and the only minor downside is its battery life.

★★★★★

Hi-Fi Choice Reader Classified

Welcome to *Hi-Fi Choice* Reader Classified, a free private ads service for buying and selling second-hand hi-fi components.

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FOR SALE

NESPA professional optical disc finaliser mint condition with manual £395. AudioDesk Systeme CD Improver VGC £150. Cash on collection: **07708 431963 (Crewe, Cheshire).**

NAIM Nait 1 (Red LED). Totally original amplifier in good condition. Reluctant sale. Sounds superb £390: **07410 408954.**

CLEARAUDIO 300Hz calibrated strobe and 12in test disc. Professional set-up tool for the discerning amateur audiophile or for the professional workshop. Never used £95 inc p&p: **07976 606369 or email: Sws999@btinternet.com (Devon).**

VERTERE Pulse-B analogue RCA 1.65m interconnect cable (RRP £949). Boxed as new £400: **07979 080525 (Lancashire).**

ICON AUDIO Stereo 40 mkIII with Jensen caps and recent valves £800 ono. Buyer collects: **07531 835575.**

QUAD ESL988 loudspeakers in black. Superb condition, full service history, with mains leads, instruction manual and original boxes and fillers £1,000 ono: **01827 284023 or 07855 579797 (Tamworth, Staffs).**

SONY ST-SDB900 tuner, VGC with remote control and manual, fully working order, silver finish. £100 or near offer plus postage: **01902 733821 or email: malcolmcostley@hotmail.com (West Midlands).**

PRIMARE i30 amp (black) £750, Primare CD31 CD player (black) £750. Both boxed with remotes: **0208 4649055 or email: billmilla@virginmedia.com (Bromley, Kent).**

LEAK Stereo 20 power/preamp, dark grey £500: **07988 081094**

CYRUS X-Power amps x2. Owned from new, immaculate condition, boxed, brushed black. Both come with Kimber power cords and QED RCA interconnects £1,200: **email: ben1972rees@gmail.com (Bucks).**

PRO-JECT 2 Xperience Classic Acrylic boxed, but no cart £320. Mitchell Technoarm £400 ONO with mounting plates for Rega and Mitchell GyroDec. Neat Motive 1 Rosewood finish, there are some chips to the veneer, £400 ONO: **07444 891217 or email: georgemoraitis2002@yahoo.com. (NE London).**

ATACAMA Nexus 6i speaker stands (satin black) and tub of Atacama Atabites. As new. £50. Collect only. **01529 304908 (Lincolnshire).**

CAMBRIDGE 651 MM/MC phono amp £75. Audio-Technica 33EV MC cartridge £135. Marantz PM6004 amplifier £75. DALI Zensor 1 speakers £75. Sansui SAP201 amp/DAC £75. Pioneer PDR609 CD player/recorder £75. Hi-Fi magazines free to collect: **01691 610589 (Shropshire).**

SONUS FABER Electa Amator speakers complete with original wood/stone stands. Exceptional condition £1,750: **07741 416584 (Lincs).**

FOCAL Utopia headphones £1,800 ono. Not a lot of use as I prefer to listen through loudspeakers: **01656 733354 or email: pauldavies242000@yahoo.co.uk.**

NAIM Uniti Mk1 serviced by Naim in 2018 and upgraded to 24-bit/192kHz spec, unmarked condition with all supplied accessories and box, £700: **07788 975856 or email: tyl590@aol.com (Gloucestershire).**

CYRUS DAC-X brushed black, excellent condition, boxed £450: **email: rachel_2290@hotmail.com (Berks).**

MICHELL GyroDec SE turntable with Origin Live Encounter 3C arm. Michell Orbe platter kit. Sensible offers only please. Cash only, buyers collect. Near M25/A21. **Email: billytkippington@gmail.com**

ICON AUDIO MB845 Mk.1 monoblock amplifiers. Upgraded to SE version with new Mundorf capacitors. New 845 valves on one amp. Boxed. Great powerful sound. Sensible offers: **07717 752288 or email: captain_b99@yahoo.co.uk (Bristol).**

MUSICAL FIDELITY A1 amp (2008 version), with USB, MM phono stage, 36W. Excellent condition, remote and manual. No box, so collection only, £425: **07398 642586 or email: Johnakeanelangley@gmail.com**

BUYING TIPS **BUYING SECOND-HAND** can be a great way to pick up a bargain. A formerly expensive second-hand component might well prove a better long-term bet than a brand-new product if the price is right. **DO SOME RESEARCH** on which brands have a good service back up, so if something does go wrong, you can get it fixed. Unless you purchase from a dealer, you're unlikely to get any warranty, so it's up to you to ensure the fitness of any gear that you buy. **USUALLY** speakers should be less prone to breakdown than amps, and amps should be more reliable than CD players. But any abused component could be trouble – have a proper demo and judge the seller as well as the goods!

ART AUDIO Concerto MKII 50WPC valve power amp. Also, Music First transformer-based preamp. All in immaculate condition. £1,500 and £600, a great combo which I can split: **01981 242067 or email: treesurglee@aol.com (Monmouth).**

CAMBRIDGE AUDIO CXN V2 streamer, lunar grey, excellent condition and light use. Original box and remote: £500. Collection only: **01280 469852 or email: davidsangster53@gmail.com. (Buckingham).**

REGA Planar 8 turntable with Apheta 3 MC cartridge fitted. Only 9 months old. All original packaging included: £1,950. Collect only: **07910 387221 or email: philbailey46@gmail.com (Epsom, Surrey).**

DYNAUDIO Evoke 10 standmount speaker new last December. Offers invited: **01825 722936 or email: stewartandjoy@gmail.com (Sussex).**

AURALIC Altair wireless streaming DAC/preamp. Silver, VGC, box, brochure and remote £800. Macintosh Super Audio CD/DAC 550 cost £8,500 for sale £4,000. VGC, box, brochure and remote: **07725 818438 or email: jonniejpc@msn.com (London).**

QUAD Artera Solus just back from Quad with full software upgrade. Mint condition, black, boxed £795: **0208 6949350 or email: alan-charlesworth@sky.com (London).**

ICON AUDIO SMFV3 speakers. Unmarked. £850. Pro-Ject Xperience Classic turntable olive wood, new lid, GoldNote cart £795. Tisbury Audio Domino phono amp. Barely used £130. Denon DL103 cart, never used £255. All manuals boxed and excellent condition: **07771 807042 or email: vincehumphreys@hotmail.co.uk (Lancashire).**

QUAD II classic integrated valve amplifier. Gold finish, excellent condition with leads and instructions, can demo, £1,900: **07704 145987 (am only) or email: norbertstefan@yahoo.co.uk (Bedfordshire).**

AUDIO-TECHNICA ATH-70 electret condenser headphones. Vintage pair of headphones in good condition and with original packaging, £45: **email: petersharples20@gmail.com.**

LINN Sondek LP12 with Ittok LV11 tonearm and K9 cartridge: £1,500. Pair Linn Keilidh speakers: £200. Creek 5050 amplifier: £100. Mint condition: **07754 084481 or email: helen.a.marshall24@gmail.com (Guildford).**

SENNHEISER HD 800 headphones for sale.Mint condition for £600: **01656 733354.**

REGA P3 £195, Goldring Eroica moving-coil £99. Both little use/very good condition. Lyra Delos moving-coil cart, old but good/careful use £99. LSA1 standmounts, slight cosmetic damage to one, but sound great £175. Buyer to collect: **0790 5501265 or email: john.harris61@btinternet.com (East Sussex).**

TASCAM DA-45HR digital audio tape deck. Drum hours 1,753. £750.AKAI GX-636 reel-to-reel stereo tape recorder. £1,400. Both in excellent condition. Price includes shipping: **e-mail mjcm4p@gmail.com (Gloucestershire).**

MUSICAL FIDELITY A370 power amplifier, Class A, 185W, fully functional with exception of bulb in on/off switch. Cosmetically very good with no scratches or dents. One owner. £1,000 ono: **01789 842336 (South Warwickshire).**

THORENS TD 321 turntable with Linn Basik LV X and Nagaoka MP100. Little used for many years. Offers please to: **07463 572804 (Leics).**

NORDOST Blue Heaven AC UK mains lead, 1.5m, as new boxed £120. SliC Eclipse C MK111 XLR interconnect 1m as new boxed £170. 2x Naim PowerLine Lite mains leads as new £20. iFI AC iPurifier UK version as new boxed £50 **email: stevecousins136@gmail.com (Dorset).**

REGA Planar 3 (black, Eighties) with RB300 and AT-OC5 £295 with cartridge, otherwise £245. Rare Sawafuji SFI-10 three-way pair, walnut £345. Audiolab 8000SX (black, Eighties) £195: **email: sn.banks@ntlworld.com (Hitchin).**

AUDIO RESEARCH LS28 preamplifier, mint condition with box and manual, buyer to collect £3,950: **07913 236601 (Manningtree, Essex).**

PROAC Tablette Reference 8 Signature black speakers, little used: £595. Musical Fidelity M6 Dac mint condition £550: **01704 628968 or 07968 769595.**

SBOOSTER BOTW MK11 audiophile power supply 15/16v. Excellent condition, with selection of interchangeable DC tips, manual and original box. Suitable for Chord TT2 or Upscaler £150: **07923047638 or email: dave.drew@talktalk.net (East Yorkshire).**

AUDIOLAB 8000A integrated amplifier in original packaging and delivery by DPD (for £20 extra) £240 ono: **01299 270810 or email: as.parker@btinternet.com (South Shropshire).**

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EDITORIAL TEAM
Editor Steve Sutherland
Production Editor Jake Day-Williams
Art Editor Emily Hammond

CONTRIBUTORS
Simon Berkovitch, Paul Hirons, Paul Hocker, James Hughes, Cliff Joseph, Jason Kennedy, David Price, Neville Roberts, Ed Selley, Nick Tate, David Vivian, Chris Ward, Nigel Williamson

PHOTOGRAPHY
Mike Prior

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MANAGEMENT TEAM
Group Editor Paul Miller
Group Art Editor John Rook
Chief Executive Owen Davies

Published by AVTech Media Ltd., Suite 6G, Eden House, Enterprise Way, Edenbridge, Kent, TN8 6HF
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REASONS TO BE CHEERFUL

Exciting things coming your way in the month ahead

1 OUTER SPACE

After all the grim news about clubs closing due to COVID, it's great to hear that Outernet Live, a new 2,000 capacity venue in the centre of London, is set to launch.

Forming part of Outernet London, "a billion-pound immersive media, music and culture district" to be located on the corner of Oxford Street and Charing Cross Road, it's said to be the largest live events venue to be built in the centre of London since the Forties, and will be housed beneath The Now Building. Plans announced describe it as: "the most advanced experiential public space in the world" with 23,000ft² of floor-to-ceiling 16K screens.

"From major movie premieres, staged in ways that have never before been possible, to intimate artist showcases that could then be broadcast across the screens, **PR ICON BARBARA CHARONE'S BOOK IS LIKELY TO BE A SCURRILOUS HOOT** the launch of Outernet Live is a game-changing moment," the press release adds. "It will play host to a broad array of live music, dance, immersive theatre, awards shows and beyond".

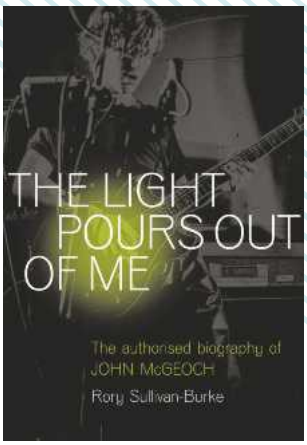
Part of the project is the return of the 350-people capacity 12 Bar Club, which closed in 2015.

2 MAEL ORDER

Fans of Ron and Russ rejoice! The 21st Century Sparks collection is here with remastered re-issues of *Hippopotamus*, *A Steady Drip, Drip, Drip*, *Balls*, *Lil' Beethoven* and *Hello Young Lovers* to be followed later this month by *Exotic Creatures Of The Deep* and *The Seduction of Ingmar Bergman* courtesy of BMG.

3 GUITAR HERO

The Light Pours Out of Me: The Authorised Biography of John McGeoch is now out via Omnibus. Written by Rory Sullivan-Burke, and drawing on interviews with Johnny Marr, Billy Idol, John Frusciante, Keith Levene, Jonny Greenwood, Ed O'Brien, Peter Hook and many others, it celebrates the life and talents of the guitarist whose exquisite work enhanced albums and gigs by Magazine, Siouxsie And The Banshees, The Armoury Show and Public Image Ltd.



4 ZIG NEWS

The out-of-print *Moonage Daydream*, which chronicles the Ziggy Stardust era of David Bowie's career, through editorial written by him and photography by Mick Rock, will be available next month via Genesis Publications. According to the press release: "The imagery and commentary focuses on 1972 to early 1974, exploring everything from the creation of the Ziggy Stardust aesthetic and putting together of the outfits, to global live tours, production of music and plenty of candid moments". For more details, check out: genesis-publications.com.

5 RADIO ON!

Phoebe Bridgers has announced a new monthly show on SiriusXM called Saddest Factory Radio. Taking its name from the record label she launched nearly two years ago, the show premiered on 3 March and subsequent episodes, featuring playback of her favourite songs and conversations with artists on the label, will air on the first Thursday of each month.

6 PRESS PLAY

Legendary music PR Barbara Charone tells all in *Access All Areas – A Backstage Pass Through 50 Years Of Music And Culture*. The book, published by Hachette, includes stories about Madonna, REM, Depeche Mode, Pet Shop Boys, Keith Richards and Robert Plant among many others and is likely to be a scurrilous hoot.

7 SITE ON

A new website charting the story of ProAc, the Bracknell speaker manufacturer, has been launched following the sad passing of company founder Stewart Tyler in June 2021.

According to the press release: "From the late Seventies to the present day, ProAc's history and Stewart's lifelong passion is reflected through a picture timeline of old family photos, hi-fi show posters and brochures. This illustrates and tells the story of how it all started, from a small shop in Borehamwood to a busy manufacturing factory in Brackley with worldwide distribution." See for yourself at: proac-loudspeakers.com/our-history.

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Next Month

ASTELL&KERN AK UW100

Exciting news of A&K's debut set of true-wireless earbuds, which the company claims: "deliver a class-leading, truly wireless hi-fi-grade sound". Equipped with a dedicated high-performance 32-bit DAC and ultra-detailed Knowles Balanced Armature drivers, the AK UW100 supports aptX Adaptive.

ALSO:

REVIEWS JBL L75ms all-in-one system, Acoustic Energy AE100^2 standmount speaker, AirPulse A80 bookshelf speaker, Mark Levinson N° 5909 wireless headphones with ANC, Cyrus i9-XR integrated amplifier and a *Group Test* of six of the very best affordable standmounts

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